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**DEPARTMENT OF DEFENSE
STEERING GROUP REPORT**

**IMPROVING THE DEFENSE
ACQUISITION SYSTEM
AND
REDUCING SYSTEM COSTS**

ADA 112680



30 MARCH 1981



**OFFICE OF THE SECRETARY OF DEFENSE
WASHINGTON, D.C.**

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DEPARTMENT OF DEFENSE
STEERING GROUP REPORT

on

IMPROVING THE DEFENSE ACQUISITION
SYSTEM AND REDUCING SYSTEM COSTS

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Acquisition Process Steering Group

Dr. Paul J. Berenson, Chairman
Acquisition Process Working Group

30 March 1981

Office of the Secretary of Defense
Washington, D.C.

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IMPROVING THE DEFENSE ACQUISITION SYSTEM AND
REDUCING SYSTEM COSTS

I. OBJECTIVES:

The Deputy Secretary of Defense memorandum (Attachment 1) initiated a 30-day DoD effort to identify and assess options for major improvements in the acquisition process and to make recommendations by 30 March 1981. The memorandum requested specific, workable recommendations that would provide immediate improvements, as well as longer term actions where necessary.

The priority objectives of the effort are to reduce acquisition cost, reduce acquisition time, increase program stability, and assure integration of acquisition systems decisions with PPBS decisions. The overall goal is to assure we are buying adequate quantities of high priority operationally useful systems, while eliminating low priority programs.

The options and recommendations developed were to be consistent with:

- (1) Increased participatory management involving the Services and the Secretary of Defense staff, working together;
- (2) Integration of improved long-range planning into acquisition decisions; and
- (3) Increasing industrial preparedness which is being separately addressed.

As directed in the tasking memorandum, we have obtained recommendations reflecting industry's viewpoints through the National Security Industrial Association (NSIA) and the Council of Defense and Space Industrial Associations (CODSIA). (Attachment 3) Additional industry ideas were obtained through consideration of the many previous studies (e.g., Defense Science Board 1977 Summer Study which included industry views). The CODSIA provided a cross-section of Industrial views representing prime and subcontractors, large and small companies, and military systems covering aerospace, electronics, ships, computers, and combat vehicles.

II. APPROACH:

A Steering Group, chaired by The Executive Assistant to the Deputy Secretary of Defense, was established and met to discuss purpose, scope, objectives, and organization of the effort. The Steering Group appointed a Working Group with representatives from the Services, OSD staffs and the Logistics Commands. Terms of Reference and Guidelines were provided to the Working Group (Attachment 2).

The Working Group was organized into five teams:

Team A - Reduce Acquisition Cost
Team B - Shorten Acquisition Time
Team C - Improve Weapon Support and Readiness
Team D - Improve DSARC Process
Team E - Multi-year Procurement

A full report from each team is provided. The major recommendations and issues that resulted from each team's efforts are presented in this Summary Report. The teams were charged, in the first week, to inventory and summarize recommendations for improvements from recent internal and external studies and reports from their own staffs.

The teams were directed to classify all major recommendations as follows:

- o Whether the impact will be near or long-term.
- o Which of the recommendations are of the highest priority based on the overall impact.
- o Whether the recommendations can be implemented internally in DoD, or require OMB or Congressional approval.

A number of reports were reviewed to record and review industry views on the DoD acquisition process. A recently completed Navy study provided up-to-date information. The Council of Defense and Space Industrial Associations provided, on short notice, a dozen key industry officials on Thursday, March 26th. They reviewed the team reports with team leaders and provided their views. Attachment 3 contains the 10 major recommendations from industry. They are the key recommendations culled from numerous industry reports, the meeting of the Working Group teams and industry representatives and recent correspondence from industry representatives.

III. CONTENT AND ORGANIZATION OF REPORT

The report of the Steering Group consists of this Summary Report containing a brief discussion of the current acquisition process, a summary of major problems with the current system, a listing of major recommendations to improve the process and a number of major issues needing further discussion before action is taken.

The five attached team reports contain a lengthier discussion of the major proposals for improvement. The Steering Group reached general agreement on the recommendations presented. The issues listed in this Summary Report are those on which the Steering Group did not agree and contain options for discussion and decision.

IV. CURRENT ACQUISITION SYSTEM

A. DESCRIPTION

The acquisition process policies are embodied in DoDD 5000.1, Major System Acquisitions, which incorporated OMB Circular A-109. The major thrusts of the current DoDD 5000.1 are to formalize the acquisition process for major systems using four milestone decision points, encourage the Services to exercise flexibility that would tailor the milestone phases and permit concurrency, streamline documentation used in the milestone review process, and elevate the importance of supportability concepts. Milestone decisions are the only formal reviews made by the Secretary of Defense.

<u>Milestone</u>	<u>SecDef Decisions</u>
0	Approval of Need, authorization to enter concept exploration phase
I	Selection of alternatives, authorization to enter advanced development or demonstration/validation phase
II	Selection of alternative(s) for development, authorization to enter Full Scale Development (FSD) phase (including limited production for operational Test and Evaluation (OT&E))
III	Authorization to proceed into Full Production and deployment

This four-phase generalized model is not intended to be rigidly followed in a sequential manner. The major systems acquisition directives encourage tailoring of the process, combining or skipping phases and milestones when this makes sense.

The Defense Systems Acquisition Review Council (DSARC) chaired by USD/R&E, is the advisory body to SecDef which conducts the necessary review, recommends appropriate action to SecDef, and monitors implementation. The DSARC normally meets at Milestones I, II, and III, or when a significant cost/performance threshold is breached. At Milestone 0 the MENS documentation is staffed through the DSARC members without requiring a DSARC meeting.

The key documents supporting the DSARC are the Mission Element Needs Statement (MENS) for Milestone 0 only, Decision Coordinating Paper (DCP), and Integrated Program Summary (IPS) for Milestones I, II, and III.

<u>Documents</u>	<u>Description/Purpose</u>
MENS	Five-page document supporting Milestone 0, defines mission area deficiency, current capabilities, support and funding constraints, and resources and schedule to meet next milestone
DCP	Ten-page executive summary document supporting Milestones I, II, and III; summarizes alternatives, issues, and decision needed; contains goals/thresholds, resources, and ICC estimates
IPS	Sixty-page document supporting acquisition plan for systems life cycle. Individual sections are devoted to resources and support areas (e.g., logistics, manpower, training, etc.)

The DSARC reviews only major systems, i.e., systems of special interest to the Secretary of Defense and declared "major" by placement on the SecDef list of major programs. MENS are reviewed for programs which project costs in excess of \$100M (FY 80 dollars) RDT&E or \$500M (FY 80 dollars) in procurement. There are currently 52 major programs in the DSARC process and 30 approved MENS (of these, 14 are included in the 52 current major systems). On a dollar basis, the DSARC major systems account for approximately 30 percent of the Services RDT&E account and approximately 45 percent of the procurement account.

B. EVOLUTION (see Figure 1)

1950's

- Service control, little or no SecDef involvement

Early 1960's (McNamara Era)

- Secretary McNamara believed Services were starting FSD prematurely, and there was too much overlap in the systems being developed.
- DoDD 3200.9 published (1965)
 - Called for Concept Formulation Phase and submission of Technical Development Plan to OSD for approval (Equivalent to Milestone I)
- Then Concept Definition Phase, another OSD approval (Milestone II equivalent), and the beginning of FSD
- No formal Milestone III

Late 1960's, early 1970's (Packard Era)

- Packard concerned with problems experienced on C-5
- Felt there was too much concurrency, saw need to have prototypes, "fly-before-buy," more testing
- DoDD 5000.1 (July 13, 1971)
 - Emphasis on SecDef decision making (felt it was inappropriate that authorization to spend this much money would be made below SecDef level)
 - Emphasis on single responsible program manager
 - Use of DSARC as an advisor to SecDef for management and technical review of programs at critical milestones before entering next phase of acquisition cycle
 - Establish formal DSARC's (I, II, and III)

Mid-1970's (Clements Era)

- Greater OSD (SecDef) involvement (periodic meetings directly with Program Manager (PMs))
- Increased emphasis on PMs (Clements tried for a time to meet personally with PMs, but found they were answerable to long chains of command within the Services)
- Increased layering and numbers of reviews in Services
- Incremental milestones, particularly after Milestone III, to reduce risk
- OMB Circular A-109 published April 5, 1976
 - Model for all Federal procurement patterned after DoD practice of agency head (SecDef) decisions at critical milestones
 - Increased emphasis on "front end," Milestone 0 decision on approval of need
 - Greater consideration of alternative industry solutions
 - Greater use of competition to reduce cost
- DoDD 5000.1 and 5000.2 revised January 18, 1977 to add Milestone "0"

- Beginning of MENS process as mechanism to accomplish Milestone "0"

Late 1970's (Perry Era)

- Emphasis on MENS process, forcing compliance to review/resolve issues early and promote program stability
- Emphasis on NATO RSI (Rationalization, Standardization, and Interoperability)
- DoDD 5000.1 and DoDI 5000.2 revised March 19, 1980
 - Fully implements A-109
 - Reacted to GAO recommendation for increased SecDef control
 - Emphasis on flexibility and tailoring; shortening the acquisition cycle
- Swing toward more concurrency between development and production, approval of low rate initial production, and concurrent problem resolution/test.

C. ADVANTAGES AND DISADVANTAGES OF CURRENT PROCESS

General - sound, flexible policies; poor, inflexible implementation

Advantages:

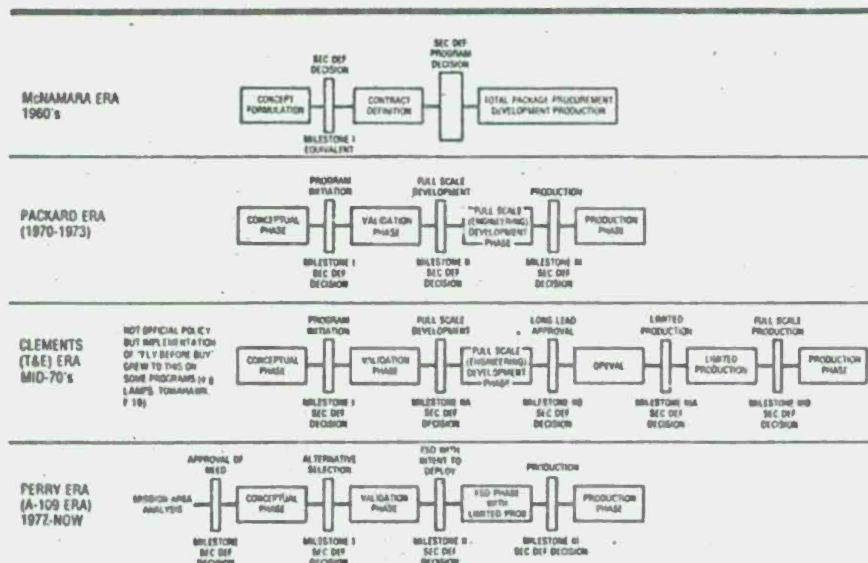
- SecDef visibility and control over critical milestones of program initiation, full scale development, and production
- Flexibility to tailor, eliminate phases (and milestones) to fit needs of each program as appropriate
- Compatible with OMB A-109
- SecDef responsibility viewed as important by Congress
- Visibility over front end provided ability to control new starts from a need/affordability standpoint (not being implemented very well)

Disadvantages

- Too many programs in development - can't fund all efficiently, causes stretchouts and long acquisition cycle

- DSARC decisions and acquisition strategies are not implemented in PPBS in many cases because of a lack of funds to continue all programs approved by DSARC
- Too many layers between SecDef and PM (one PM documented having to give 83 briefings to get a Milestone III decision, 4 at OSD, 79 in Services)
- Interpretation/reinterpretation of milestone requirements at various levels causes PM to feel he really doesn't have much flexibility at all
- Documentation
 - MENS coordination is time-consuming (doesn't necessarily lengthen cycle, but consumes a lot of resources)
 - IPS requests too much information, particularly for Milestone I
- Incremental milestones (e.g., IIIA, IIIB) consume too much of PM's time
- Written policies emphasize flexibility, but "no risk" attitude throughout the chain of command discourages tailoring strategies to shorten the cycle.

Figure 1. SYSTEMS ACQUISITION PROCESS EVOLUTION



VIEWS OF PROBLEMS WITH THE CURRENT ACQUISITION SYSTEM

CONGRESS/GAO

- o Early cost, schedule and performance estimates are consistently overly optimistic and highly unrealistic.
- o Services try to do too much at one time--always looking for quantum jumps in capability which cause excessive cost.
- o There is no one in control--inter-Service competition for funds, failure to kill marginal programs, acceptance of huge cost growth and smaller procurements, all lead to perception of lack of management control and clear direction.
- o Contractors are "encouraged" to buy in (sign a contract for less than the program cost).
- o Contractors are not held to contract requirements--contracts are too loose.
- o Readiness considerations are always secondary to hardware procurement and deployment.
- o System requirements/cost are considered as individual packages--no sense of a long-range plan for meeting mission requirements and overall cost objectives.

SERVICES

- o Milestone review process generates excess amount of paperwork and reviews, before and after presentation to OSD.
- o Unrealistic demands for hard numbers and solutions "up front" when unknowns exist.
- o Excessive micro-management of program technical issues by OSD and Congress.
- o Statutory responsibility of Services to fulfill requirements usurped.
- o Inflexible (Congressional) budgetary rules impedes transition from development to production.
- o Relatively inflexible in terms of execution.
- o Disconnect from PPBS counterproductive to program stability.
- o Lack of an effective OSD Acquisition Authority allows unchecked proliferation of directives, tasking, and uncoordinated policy.

SERVICE PROGRAM MANAGER

- Too many reviews by too many layers in both OSD and Service.
- Control of resources disconnected from responsibility for system readiness.
- Costs required too far in advance of expenditure dates.
- Proliferation of informal Service and OSD guidance.
- Too many regulations and reports.
- Lack of funding in early program phases to analyze logistic support requirements.

OSD

- Too many systems competing for scarce resources.
- Failure/inability to "weed-out" low priority programs in order to fully-fund and efficiently-execute the higher-priority systems.
- Inadequate consideration of affordability at DSARC milestones because of lack of a stable long-range plan and funding.
- Acquisition cycle too long.
- Lack of discipline of system technical requirements (gold-plating).
- Inadequate cost/performance quantity/schedule trade-offs during conceptual design.
- Support and readiness inadequately addressed.

OMB/OFPP

- Inadequate mission planning and analysis.
- Affordability, priority, and allocation of resources not adequately addressed on new starts resulting in too many false starts.
- Services continue to specify performance requirements, resulting in "gold plated" solutions rather than specifying functional needs.
- Science and technology base efforts diluted by hidden systems efforts planned to go directly to full-scale development without analysis of mission need or consideration of alternatives.

OMB/OFPP (Continued)

- Acquisition process, measured from start of system efforts in science and technology base to start of full-scale development, is excessively long (typically 8-10 years).
- In-house review process between need identification and start of full-scale development typically takes 30 months, in addition to time for contracted efforts.
- Inefficient use of both in-house and industry resources with major time gaps in contracted efforts.
- Excessive and unneeded documentation being required too early in the process at Milestones I and II.

INDUSTRY

- Acquisition practices discourage or prevent capital formation and investment.
- Industry perceives that the DoD views low profit as a desirable objective for Defense.
- Instability is caused by starts, stops, stretchouts, redirections and inordinately long decision times.
- Overmanagement by the Government, in particular:
(1) Excessive surveillance (audits, reviews, etc.) of all aspects of Contractor Management, (2) unproductive and costly requirements for excessive technical, financial and management data; (3) time-consuming and program destabilizing unproductive micro-management of the acquisition process at all levels of Service agencies and in OSD.
- Overemphasis on price competition leads to lack of cost realism. Industry perceives that final decisions are based principally on cost and that successive competitions are used to drive contract price down.
- Inappropriate contract types are used where major uncertainty exists; e.g., fixed price for development and early production.
- Cost growth and delay is caused by obsolescence and proliferation of laws and regulations.
- There is gross underfunding of all competitive phases before Milestone II (Full-Scale Development). Industry underwrites the effort (a form of forced "buy in").
- Inflation guidelines used by DoD have been unrealistically low adding to underfunding and program instability.

INDUSTRY (Continued)

- o Government competes with industry in the maintenance of fielded equipment and other services.
- o Adversarial attitudes are held by many government personnel.

VI. MAJOR RECOMMENDATIONS

Following are the major recommendations contained in the Team and Industry Reports on which the Steering Group has reached consensus. Table I contains a summary of these recommendations. Each is presented for decision with a short discussion and advantages and disadvantages.

Recommendations 1 contains major management principles that the Steering Group feels should be announced and/or reaffirmed by the Deputy Secretary of Defense. There are 23 recommendations from the Steering Group.

Attachment 1 contains the 10 major recommendations from industry. They are the key recommendations culled from numerous industry reports, the meeting of the Working Group teams and industry representatives and recent correspondence from industry representatives.

Following the recommendations are eight major issues needing top level review, discussion and decision. Recommendations are further cross referenced to details in specific team reports.

NOTE: The following includes the decisions of the Secretary and Deputy Secretary of Defense indicated by the initialing of the Deputy Secretary of Defense in the following material which was included as part of the decision memorandum dated April 30, 1981.

Table I. SUMMARY OF MAJOR RECOMMENDATIONS AND ISSUES FOR DECISION

RECOMMENDATIONS	IMPACT		REQUIRED ACTION			COORDINATION					
	NEAR TERM (1 YEAR)	LONG TERM	INTERNAL ONLY	OMB OR CONGRESS ALSO	RESPON-SIBLE OFFICE	Services	USDRE	ASD (C)	ASD (MRA&L)	ASD (PA&E)	OGC
1. Management Principles	X		X		USDRE	X					
2. Preplanned Product Improvement		X	X		USDRE	X					
3. Multiyear Procurement		X		X	USDRE			X			X
4. Increase Program Stability		X	X		ASD (PA&E)	X	X	X			
5. Encourage Capital Investment to Enhance Productivity		X		X	USDRE	X		X			X
6. Budget to Most Likely Costs	X		X		ASD (C)	X	X			X	
7. Economic Production Rates		X	X		USDRE			X		X	
8. Assure Appropriate Contract Type		X	X		USDRE	X					
9. Improve Support and Readiness	X		X		ASD (MRA&L)	X	X				
10. Reduce the Administrative Cost and Time to Procure Items		X		X	USDRE			X			X
11. Budget Funds for Technological Risk		X	X		USDRE	X					
12. Front End Funding For Test Hardware	X		X		USDRE	X			X		

SUMMARY OF MAJOR RECOMMENDATIONS AND ISSUES FOR DECISION

RECOMMENDATIONS	IMPACT		REQUIRED ACTION			COORDINATION					
	NEAR TERM (1 YEAR)	LONG TERM	INTERNAL ONLY	OMB OR CONGRESS ALSO	RESPON- SIBLE OFFICE	Services	USDRE	ASD(C)	ASD (MRA&L)	ASD (PA&E)	OGC
13. Governmental Programs		X		X	USDRE	X		X			X
14. Reduce the Number of DoD Directives	X		X		USDRE	X					
15. Funding Flexibility		X		X	ASD(C)	X	X				X
16. Contractor Incentives to Improve Reliability and Support		X	X		USDRE	X			X		
17. Reduce DSARC Briefing and Data Requirements	X		X		USDRE	X	X	X	X	X	
18. Budgeting for Inflation		X		X	ASD(C) / ASD(PA&E)	X	X				
19. Forecasting Business Base at Major Defense Plants	X		X		ASD(PA&E)	X					
20. Improve the Source Selection Process	X		X		USDRE	X					
21. Standard Operational and Support Systems		X	X		USDRE	X			X		
22. Provide More Appropriate Design to Cost Goals		X	X		USDRE	X		X			
23. Assure Implementation	X			X	USDRE	X					

SUMMARY OF MAJOR RECOMMENDATIONS AND ISSUES FOR DECISION

ISSUES FOR DECISION	IMPACT		REQUIRED ACTION			COORDINATION					
	NEAR TERM (1 YEAR)	LONG TERM	INTERNAL ONLY	OMB OR CONGRESS ALSO	RESPON- SIBLE OFFICE	Services	USDRE	ASD(C)	ASD (MRA&L)	ASD (PA&E)	OGC
A. <u>DSARC Decision Milestones</u>	X				USDRE	X					
Alt. 1: Reduces current four SecDef decisions to three.			X								
Alt. 2: Reduces SecDef decisions to two. (II and III)			X								
*Alt. 3: Reduces SecDef decisions to two. (I' and II')			X								
Alt. 4: Eliminates SecDef decisions; delegates to Service Secretaries.				X							
B. <u>Mission Element Needs Statement</u>	X				USDRE	X					
*Alt. 1: Service submits MENS with POM. SecDef approves MENS by accepting POM.			X								
Alt. 2: Eliminates MENS. Congressional Descriptive Summary would document Milestone O.				X							
C. <u>DSARC Membership</u>	X		X		USDRE						
Alt. 1: Maintain status quo.											
*Alt. 2: Would include appropriate Service Secretary or Chief as full member.											

* Approved Alternative

SUMMARY OF MAJOR RECOMMENDATIONS AND ISSUES FOR DECISION

ISSUES FOR DECISION	IMPACT		REQUIRED ACTION			COORDINATION					
	NEAR TERM (1 YEAR)	LONG TERM	INTERNAL ONLY	OMB OR CONGRESS ALSO	RESPON- SIBLE OFFICE	Services	USDRE	ASD(C)	ASD (NRA&L)	ASD (PA&E)	OGC
D. <u>Defense Acquisition Executive</u> *Alt. 1: Would retain USDRE as DAE. Alt. 2: Would designate DepSecDef as DAE.	X		X		USDRE						
E. <u>DSARC Review Criteria</u> Alt 1: Continues present system. *Alt 2: Doubles \$ guidelines for major systems to \$200M RDT&E and \$1B Procurement in FY 80 \$.	X		X		USDRE						
F. <u>DSARC-PPBS Decision Integration</u> Alt 1: Continue present practice. *Alt 2: Provide that DSARC reviewed programs be accompanied by assurance that sufficient resources are in FYDP and EPA to execute the recommended program. DSARC review would certify program ready for next stage. Alt 3: Have DRB assume DSARC functions.	X		X		USDRE	X		X			
*Approved Alternative											

SUMMARY OF MAJOR RECOMMENDATIONS AND ISSUES FOR DECISION

ISSUES FOR DECISION	IMPACT		REQUIRED ACTION			COORDINATION					
	NEAR TERM (1 YEAR)	LONG TERM	INTERNAL ONLY	OMB OR CONGRESS ALSO	RESPON- SIBLE OFFICE	Services	USDRE	ASD(C)	ASD (MRA&L)	ASD (PA&E)	OGC
<p>G. <u>Program Manager Control of Support</u></p> <p>Alt 1: Would continue present system.</p> <p>Alt 2: Services submit support resource requirements and readiness objectives with POM for systems entering early production.</p> <p>*Alt 3: Same as 2 but gives Program Manager more influence over support resources, funding and execution.</p>	X		X		ASD(MRA&L)	X	X				
<p>H. <u>Improve Reliability and Support</u></p> <p>*Alt 1: Requires early decision on system support approach, objectives and resources, and incentives to balance risks in reliability and support.</p> <p>Alt 2: Does not require up-front efforts to reduce risks. Shifts focus to fixing problems by subsequent re-design of hardware and incorporation of fixes.</p>	X		X		USDRE	X			X		

*Approved Alternative

Recommendation 1

MANAGEMENT PRINCIPLES

The Steering Group recommends that the Deputy Secretary of Defense reaffirm the following major acquisition management principles:

1. An improved statement of long-range Defense policy, strategy and resources will be provided to the Services in order to establish a framework for military objectives, goals, and mission planning to enhance program stability.
2. Responsibility, authority and accountability for programs should be at the lowest levels of the organization at which a total view of the program rests.
3. Service Program Managers should have the responsibility, authority, resources, and guidelines (goals and thresholds) adequate to efficiently execute the program. This should include the system specific acquisition strategy for attainment of the required operational and readiness capability, and appropriate flexibility to tailor the acquisition strategy to estimates of the development priorities and risks.
4. Evolutionary alternatives which use a lower risk approach to technology must be examined when new programs are proposed. Solutions at the frontiers of technology must provide an alternative which offers an evolutionary approach. Pre-planned Product Improvement (P²I) should become an integral part of the Acquisition Strategy.
5. Achievement of economic rates of production is a fundamental goal of the acquisition process.
6. The Services should plan to realistically budget and fully fund in the FYDP and Extended Planning Annex (EPA) the R&D, procurement, logistics and manpower costs at the levels necessary to protect the acquisition schedule established at program approval points, and to achieve acceptable readiness levels.
7. Improved readiness is a primary objective of the acquisition process of comparable importance to reduced unit cost or reduced acquisition time. Resources to achieve readiness will receive the same emphasis as those required to achieve schedule or performance objectives. Include from the start of weapon system programs designed-in reliability, maintainability and support.
8. The proper "arms-length" buyer-seller relationship should not be interpreted by government or industry as adversarial. The DoD should be tough in contract negotiations. But weapons acquisition should be managed on a participating basis using industry as a full constructive team member. A strong industrial base is necessary for a strong defense.

Approved:
Idea Needs More Development:
I Need More Information:
Disapproved:

Recommendation 2

PREPLANNED PRODUCT IMPROVEMENT

A revolutionary system development approach which uses new and untried technology to meet a military threat can offer dramatic potential payoffs, but frequently ends up with large cost increases and schedule slippages.

An evolutionary approach offers an alternative which minimizes technological risk, and consciously inserts advanced technology through planned upgrades of those deployed subsystems which offer the greatest benefits. In this manner the lead time to field technological advances can be shortened while an aggressive scheduling of fielded performance improvements can be expected during the service life of the systems. This concept is called Preplanned Product Improvement (P3I), and is commonly used in commercial industry. (B-16)

Recommendation - Most new and existing systems should be partitioned for performance growth through the application of sequential upgrades to key subsystems in order to reduce development risk, and take best advantage of technological advance.

Advantages - Can reduce acquisition time, reduce development risk and cost, and enhance fielded performance through the deployment of upgrades. A revolutionary approach can always be adopted when the demands of the threat or other compelling military needs require such an approach.

Disadvantages - The performance needed to meet a critical threat may dictate the use of distant technology, but the factors involved in such a decision are seldom incisive. Therefore, the choice between alternatives is not likely to be absolutely clear.

Action Required:

- USDRE, working with the Services, develop within 30 days a plan for implementing Preplanned Product Improvement including definitions and criteria for application.

- USDRE request the Services to evaluate ongoing programs to determine potential for payoff from the application of preplanned product improvement, and to present results at the next DSARC.

- USDRE assure Services have fixed the responsibility for review of opportunities for product improvement after any system reaches the field, and to develop a product improvement plan.

Approved: _____

Idea Needs More Development: _____

I Need More Information: _____

Disapproved: _____

Recommendation 3

MULTIYEAR PROCUREMENT

Recommendation: Encourage extensive use of multiyear procurement based upon a case-by-case benefit/risk analysis.

Advantages: Multiyear procurement could result in average dollar savings of 10 to 20% in unit procurement cost through improved economies and efficiencies in production processes, economy-of-scale lot buying, decreased financial borrowing costs, better utilization of industrial facilities, and a reduction in the administrative burden in the placement and administration of contracts. In addition, the stimulated investment in production equipment will result in lower-defect, higher quality products. The market stability will also enhance the continuity of subcontractor supply lines and thereby decrease acquisition time. Surge capability will also be improved.

Disadvantages: This funding technique fences in money and commits future Congresses. If used to excess, it would significantly reduce the flexibility of the Secretary of Defense to respond to unforeseen changes in the external threat. If a multiyear procurement was used to lock in a border line program, costs would be increased if the program was cancelled. In order to avoid these potential disadvantages, the following criteria are recommended as general guidelines to screen potential multiyear candidates: (1) significant benefit to the Government; (2) stability of requirements, configuration, and funding; and (3) degree of confidence in cost estimates and contractor capabilities.

Action Required:

- a. General Counsel must respond in writing to Congressman Daniel's Bill HR 745.
- b. USDRE and ASD(Comptroller) should brief Appropriation and Armed Services Congressional Committees on recommended multiyear procurement procedures and concepts.
- c. USDRE should prepare special policy memorandum to the Military Departments for SecDef signature defining procedures and requesting identification of potential FY 83 multiyear procurement candidates.
- d. USDRE and ASD(Comptroller) should modify DoD Directive 7200.4 and the Defense Acquisition Regulation (DAR) and should interface with OMB to modify Directive A-11 as required.
- e. SecDef will present FY 83 President's Budget containing multiyear candidates.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

Recommendation 4

INCREASE PROGRAM STABILITY IN THE ACQUISITION PROCESS

Program instability is inherently costly in both time and money. The 47 major programs covered by the December 31, 1980, Selected Acquisition Reports (SARs) reflected total cost growth of 129 percent over the Milestone II estimates. Reasons for growth are economic or inflation (27 percent), quantity changes (26 percent), estimating changes (18 percent), schedule changes (15 percent), support changes (7 percent), engineering changes (5 percent), and other changes (2 percent). Forty one (41) percent of all cost growth is due to quantity and schedule changes.

Of the 47 programs, 19 have had quantity increases, 20 quantity decreases, and 8 are unchanged. Schedule changes have resulted in reduced costs on 4 programs and increased costs on 41. The most common cause for these changes is financial. The budget levels and relative priorities of competing programs force tough decisions to terminate programs, reduce the number of weapons, stretch the development program, delay planned production or stretch the planned buy. (B-26)

Recommendation: SecDef, OSD and Services should fully fund the R&D and procurement of major systems at levels necessary to protect the acquisition schedule established at the time the program is baselined, currently Milestone II. Limit stretch-outs due to funding constraints (except when mandated by the Secretary or Congress). Establish procedures which will phase the scheduling of sequential milestones so that manpower "peaks and valleys" can be minimized consistent with balancing the risks. In general, only changes which are directed by changed requirements or development problems should be made.

Advantages: Reduces costs and saves time by stabilizing schedules, quantities, and production rates. Will enhance the ability to plan force modernizations.

Disadvantages: Budget flexibility will be reduced.

Action Required: SecDef directs that during program and budget reviews by OSD (DRB) the Service Secretaries must explain and justify differences between program baselines established at Milestone II and the quantity and funding in the program or budget under review.

ASD(C) and ASD(PA&E) include above direction in FY-83 POM and Budget Guidance.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

Recommendation 5

ENCOURAGE CAPITAL INVESTMENT TO ENHANCE PRODUCTIVITY

Productivity in the defense sector of the U.S. economy has been lagging, in large part because of low levels of capital investment compared to U.S. manufacturing in general. Cash flow problems, tax policy, high interest rates, and low return on investment (ROI) tend to limit available investment capital. The industry views low profits and program instability as precluding investment in capital equipment. This situation has two major implications: a tendency to shift from defense to commercial business, and a decrease in funds available for facilitization.

Recommendation: Encourage capital investment.

Advantages: Will increase long-term investments which should lead to lower unit costs of weapons systems. Increase productivity.

Disadvantages: Earlier Government disbursements. Some reduction in tax revenues.

Action Required: USDRE should have the prime responsibility to implement the following actions working closely with General Counsel, Legislative Affairs, and the Service Material Commands.

a. General Counsel should support legislative initiatives to permit more rapid capital equipment depreciation and to recognize replacement depreciation costs by amending or repealing Cost Accounting Standard (CAS) 409, "Depreciation of Tangible Assets."

b. Structure contracts to permit companies to share in cost reductions resulting from productivity investments. Modify the Defense Acquisition Regulation (DAR) profit formula. Allow for award fees inversely proportional to maintainability costs.

c. Increase use and frequency of milestone billings and advanced funding. Expedite paying cycle.

d. Provide for negotiation of profit levels commensurate with risk and contractor investment; ensure that recent profit policy changes are implemented at all levels.

e. Instruct the Services of the need to grant equitable Economic Price Adjustment (EPA) clauses in all appropriate procurements. Contract price adjustments made in accordance with EPA provisions should recognize the impact of inflation on profits. Ensure that these clauses are extended to subcontractors.

f. Increase emphasis on Manufacturing Technology Programs.

g. Provide a consistent policy which will promote innovation by giving contractors all the economic and commercial incentives of the patent system. Provide policies to protect proprietary rights and data.

h. General Counsel should work to repeal the Vinson-Trammell Act.

Approved: _____

Idea Needs More Development: _____

I Need More Information: _____

Disapproved: _____

Recommendation 6

BUDGET TO MOST LIKELY COSTS

Intentionally low initial cost estimates are a prime contribution to apparent cost growth. Program costs are sometimes purposely understated either because DoD is forcing a program to fit available funding rather than the funding it takes to do the job, or because the contractors are purposely lowering their cost estimates in order to win a contract with hopes of recovering costs on follow-on contracts. Either practice is referred to as "buying in." When the actual costs become apparent, DoD is severely criticized for cost overruns and there are insufficient funds available to procure at economic production rates. Also, the negotiated contract cost does not include future engineering changes or post-contract award negotiations which can drive costs higher. (A-6)

Recommendation: Require the Services to budget to most likely expected costs, including predictable cost increases due to risk. Provide incentives for acquisition officers and industry to make and use realistic cost estimates.

Advantages: Less cost growth. More realistic long-term defense acquisition budget. Increased program stability.

Disadvantages: Difficulty in determining if a contractor is providing realistic estimates. Political difficulty in rejecting bids that project prices lower than costs. Difficult to budget funding greater than publicly-known contractual funding.

Action Required: ASD(C) require the Services to budget to most likely or expected costs including predictable cost increases due to risk, instead of the contractually agreed-upon cost. USDRE and the Services provide incentives for acquisition officers and contractors to accurately project costs, including financial incentives and performance evaluation considerations to DoD personnel, and profit incentives to industry to reduce costs.

Approved: _____
Idea Needs More Development: X
I Need More Information: _____
Disapproved: _____

Recommendation 7

ECONOMIC PRODUCTION RATES

The cost and time needed to put a weapon system into the field can be reduced by establishing and sustaining economic rates of production (i.e., the rate at which unit cost doesn't decrease significantly with further rate increases). Tight budgets and strong competition between programs have forced many programs to accept funding levels in the budget which will not sustain an economic rate of production. (B-41)

A commitment to economic production rates cannot rule out sound arguments for lower (or higher) rates. For example, the Services may wish to stretch a program over a number of years in order to preserve a warm production base to permit rapid mobilization to meet a crisis or war. However, this requires stockpiling of materials, parts and subsystems to be effective.

Recommendation: Services must use economic production rates in their program and budget requests, or explain and be prepared to defend the reason why a different rate was selected.

Advantages: Save time and reduce cost of acquiring new systems.

Disadvantages: Will buy out the total system faster (shorter production run for a given quantity) with peak funding competing with other systems, possible workload fluctuations in certain industries with occasional dead time and possible erosion of the industrial base. Can increase cost of correcting support problems.

Action Required: Secretary of Defense establish policy requiring Services to fund programs at economic rates or justify any differences during budget reviews by OSD and the DRB. USDRE and ASD(C) include this requirement in the FY 83 program and budget guidance..

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

Recommendation 8

ASSURE APPROPRIATE CONTRACT TYPE

Industry has repeatedly, over a long period, expressed serious concerns about the recurring use of the wrong type of contract. In particular, fixed price contracts are frequently employed for RDT&E and early production, which have legitimate cost uncertainties. This leads to a high risk situation for the contractors and to cost overruns for DoD. Current DoD policies and regulations give guidance as to the use of appropriate contract types; however, this guidance is not being followed in the field.

Recommendation: Give the Program Managers the responsibility to tailor contract types to balance program needs and cost savings with realistic assessment of an acceptable balance of contractor and government risk. Recommendation 1/Management Principle 3 states that the Program Managers be given the authority to determine the specific acquisition strategy.

Advantages: Precludes a company from being forced to assume cost risk beyond their financial ability.

May increase competition if contractor risks are recognized.

Gives the Program Managers more flexibility to accommodate program needs.

Disadvantages: Government assumes more cost risk.

Action Required: USDRE establish an OSD, Service, Industry working group to develop an implementation plan to ensure that appropriate contract types are used. USDRE and the Service Secretaries ensure that Program Managers have the responsibility for determining the appropriate contract type. USDRE should ensure that the regulations are clear on this point.

Approved: _____

Idea Needs More Development: _____

I Need More Information: _____

Disapproved: _____

Recommendation 9

IMPROVE SYSTEM SUPPORT AND READINESS

As a result of recurring problems with weapons system support, the recent revision of acquisition policies includes a major emphasis on support issues, including reliability, maintenance, spares, test equipment, and maintenance manpower. These recent policies are generally sound, are not directly influenced by the major acquisition process options presently under consideration and can be undertaken under any option.

To be effective the policies require Secretary of Defense commitment. The need for this specific commitment results from the competition among the conflicting objectives of high performance, lower cost, shorter schedules, better reliability and maintenance, and support. (C-2 and C-7)

Recommendation: Establish readiness objectives for each development program to include estimates of the readiness level to be achieved at early fielding and at maturity. Implement acquisition policy establishing "designed-in" reliability and readiness capabilities. The implementation must emphasize the objectives of shortening the overall time to deliver equipment to the troops which meet mission and readiness needs; the need for improved estimates of the R&D and support resources required; and additionally, ask that some force element(s) be targeted for a major improvement in designed-in support capability to be less dependent on a support tail.

Advantages: Clarifies that improvement in readiness is a major objective of the Administration, and that implementation must take place.

Disadvantages: Will require additional technical effort and resources early in acquisition programs.

Action Required: MRA&L draft SecDef policy letter to be issued within thirty days, reaffirming weapons support policy and objectives, and tasking the Services to develop implementing guidelines, including procedures for addressing support early in acquisition programs.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

Recommendation 10

REDUCE THE ADMINISTRATIVE COST AND TIME TO PROCURE ITEMS

In 1974, less stringent requirements were established for DOD Contract procedures associated with purchases under \$10,000. The purpose was to reduce both the time and paperwork costs to a level commensurate with the value of the item being purchased. Over the years the tendency of a bureaucracy to take precautions has expanded the paperwork associated with a procurement, and inflation has reduced the purchasing power of the dollar until the \$10,000 item of 1974 would cost almost twice that much to purchase today.

A similar inequity exists in the administrative procedures governing contract funding execution. Department of Defense and Service procedures place numerous administrative requirements on the obligation of funds. They provide unnecessarily cumbersome safeguards for the public interest, to a certain extent thereby, thwarting that interest. There is also a general tendency to apply the most burdensome procedures, even if administrative shortcuts are allowed. The DoD is motivating its contract and fund administrators to avoid the least possibility of criticism rather than to use economic procedures.

a. Recommendation: Raise the \$10K limit for purchase order contract use to \$25K to accommodate inflation and reduce unnecessary paperwork and review. Letter is enroute from Joint Logistics Commanders to DEPSECDEF recommending change. Proposal is currently in staffing at OMB for inclusion in the Uniform Procurement System (UPS) and as a legislative initiative.

Action Required: DEPSECDEF recommend that OMB (OFPP) initiate change to 10 USC 2304.

b. Recommendation: Raise threshold for contractor costing data input from \$100K to \$500K to accommodate inflation and reflect current auditing procedures. (Paperwork load is such that only data for contracts over \$500K is actually audited today.)

Action Required: DEPSECDEF recommend that OMB (OFPP) initiate legislative change to USC 2306.

c. Recommendation: Raise threshold for Service Secretary review of Contract Determination and Findings (DAF) for RDT&E from \$100,000 to \$1 million. Current level was set in mid-1960s. Higher level would still cover 90 + % of expenditures (dollars). Higher limit supported by JLC.

Action Required: DepSecDef recommendation to OMB (OFPP) for approval; subsequent change to Defense Acquisition Regulations (DAR).

d. Recommendation: Encourage greater use of class (D&Fs) which allows one D&F to cover multiple contracts. Reduces total volume of contracts which must be reviewed, thus speeding up processing time.

Action Required: USDR&E prepare policy statement encouraging greater use of class D&Fs.

e. Recommendation: Raise reprogramming thresholds from \$2M to \$10M for RDT&E appropriations and from \$5M to \$25M for procurement. Thresholds were set 10 years ago with no inflation accommodation. Greatly reduces Service flexibility to answer program.

Action Required: Renew SecDef/DepSecDef efforts to obtain Congressional Committee approval (HASC, SASC, HAC, SAC).

Advantages (all above recommendations): Provides immediate relief from unnecessary paperwork burden. Reduces administrative lead time, which will result in reductions in in-house and industry overhead cost. Supports a far more efficient Government cash flow management.

Disadvantages: Less opportunities for legal reviews.

f. Recommendation: Eliminate the need for non-Secretarial level D&Fs for competitive negotiated contract awards.

Advantages: Reduced paperwork and administrative lead times. In conjunction with recommendation C above, to increase D&F thresholds, the D&F requirement would be considerably reduced.

Disadvantages: Many smaller procurement actions would not be reviewed above program office level.

Action Required: SecDef submit recommended legislation to review public law.

g. Overall Action: USDR&E prepare implementation plan and required SecDef letters within 60 days. Tie cost thresholds to inflation.

Approved:

Idea Needs More Development:

I Need More Information:

Disapproved:

Recommendation 11

INCORPORATE THE USE OF BUDGETED FUNDS
FOR TECHNOLOGICAL RISK

Material development and early production programs are subject to uncertainties. Program managers who explicitly request funds to address these uncertainties usually find these funds deleted either in the DoD PPBS process, by OMB, or by Congress. Then when such uncertainties occur, undesirable funding adjustments are required or the program must be delayed until the formal funding process can respond with additional dollars.

The Army has initiated, and Congress has accepted, a Total Risk Assessing Cost Estimate (TRACE) to explicitly address program uncertainties in the development of RDT&E budget estimates. The Army is studying the application of this concept to early production cost estimates. The other Services lack a similar concept to justify reserve funds for dealing with developmental uncertainties. (A-33)

Recommendation: Increase DoD efforts to quantify risk and expand the use of Budgeted funds to deal with uncertainty. Encourage all Services to use such budgeting where appropriate.

Advantages: Cost estimates will be more realistic over time. Programs will be more fully funded and overall programs will be more stable.

Disadvantages: Can encourage a more costly treatment of problems that might be solved in other ways (self-fulfilling prophecy). Higher initial program estimates would result in fewer programs within a stated total obligation authority.

Action Required: SecDef emphasize the requirement to evaluate, quantify and plan for risk. USDRE direct all Services to budget funds for risk. In particular, each Service should review the TRACE concept and either adopt it or propose an alternative for their use to USDRE within 60 days.

Approved: n
Idea Needs More Development:
I Need More Information:
Disapproved:

Recommendation 12

PROVIDE ADEQUATE FRONT END FUNDING FOR TEST HARDWARE

Weapon system development programs often have too few test articles to allow parallel tests for performance, reliability, etc., and in order to shorten development time without substantially increasing risks. Procurement of too few test articles forces a sequential approach whereby the available test articles are dedicated exclusively to development testing. Consequently, operational and other testing cannot be accomplished concurrently (within acceptable levels of risk) to save time.

In addition to designing for the major performance objectives, increased emphasis should be placed on designing for reliability by providing adequate design margins, while giving full consideration to adequate testing, fault isolation and maintainability. Adequate test hardware should be provided in the program to permit early combined environmental tests of the subsystems and subsequent system tests, to allow iteration of the design using the test-fix test process to achieve early design maturity. (B-35 and B-39)

Recommendation: Provide sufficient test hardware to meet the subsystem, system and software engineers' needs to properly engineer and test development of the end item hardware using parallel testing to reduce overall schedule time. The number of test articles must be defined and explained during preparation of Service programs and budgets.

Advantages: Saves time in the total acquisition process by emphasizing reliability up front and eliminating lengthy and costly problem identification and correction effort; also allows realistic concurrent development and operational testing.

Disadvantages: Requires increased front end funding.

Action Required: USDRE ensure that the acquisition strategy identify plans for and funding required to acquire adequate subsystem and system test hardware to reduce overall schedule time and risks.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

a

Recommendation 13

GOVERNMENTAL LEGISLATION RELATED TO ACQUISITION

Over the past decade, the acquisition process has become overburdened with governmental legislation and requirements. Individually, these regulations have worthwhile objectives; collectively, they impose a costly and burdensome requirement on industry and the acquisition process.

Recommendation: Seek DoD relief from the more burdensome requirements of governmental regulations.

Advantages: Less cost to contractors in doing business with the Government. Reduce program costs. Simpler contracting procedures. Faster contract awards.

Disadvantages: Reduced benefits which are considered important national goals. Request for relief will certainly spark debates with the various interested groups.

Action Required: USDR&E establish joint OSD and Service team to weigh the impact of the various governmental requirements and regulations on the efficiency and effectiveness of the total DoD acquisition and contracting process. Industry and OMB should participate to the maximum extent possible. A report should be prepared for the DepSecDef within 45 days.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

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Recommendation 14

REDUCE THE NUMBER OF DOD DIRECTIVES

The current acquisition directive refers to 114 (up from 15 in 1971 and 26 in 1977) related directives and instructions. The Services emulate these directives in implementation with their own implementing instructions. There is rarely a challenge to these well-intentioned directions, nor is there a cost-benefit check performed. Program manager and industry initiatives are often stilted by overregulation. With each new directive additional paperwork, manhours and other direct costs are expended in compliance. Congressional, GAO, industry, OSD, and OFPP studies have indicated that contractually imposed management systems and data requirements cost 8 cents out of every contract dollar. With defense contracting approaching \$100 billion a year, it means that these management-imposed requirements cost approximately \$8 billion per year. A 20% improvement would save \$116 million per year.

Recommendation: Reduce the number of directives. Require that the Defense Acquisition Executive be the sole issuer of DoD directives related to acquisition. This would not mean that DAE would draft all such documents, only that DAE would have final review and releasing authority.

Advantages: Coordinates requirements and reduces the issuance of superfluous directives. Will reduce program costs to the extent that directives require reports, data, documentation.

Disadvantages: Adds an additional layer to the process of issuing or revising a directive. Places the DAE in control of directives for areas of acquisition for which he may have little expertise.

Action Required: USDRE establish a joint OSD, Service, Industry team to provide recommendations within 90 days to substantially reduce the number of directives, and the documentation required in contracts.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

Recommendation 15
FUNDING FLEXIBILITY

Program continuity requires that we budget for procurement funds more than a year in advance of the actual transition date of major acquisition programs from R&D to procurement. Since most development program schedules are success oriented, sometimes the procurement transition date arrives and the system is not ready to buy. Because procurement funds have been budgeted, there is considerable pressure to proceed with production rather than accept program delay. If the Secretary (and/or Military Departments) had the authority to transfer these procurement funds to R&D to correct deficiencies without the prior approval of OMB and Congress, it could significantly decrease the time involved in resolving program problems. Section 734 of P.L. 96-527 (DoD Appropriation Act) provides a general authority for Transfers, not to exceed \$750 million between DoD appropriations. Its use requires a determination by SecDef that such action is in the National Interest and must have prior approval by OMB. Our current reprogramming arrangements with the Congressional Oversight Committee provide that any such transfer is of "special interest of the Congress" and requires their prior approval, in effect, negating the independent use of transfer authority by the Department.

The proposal would require the support of the Oversight Committees and OMB. Ideally, such approval should be included in the general provisions of the Appropriations Act as a subsection of 734. We will have to work closely with Congress to ensure that this authority would apply only to the movement of funds programmed for an individual weapon system, and would not be used to transfer funds between programs.

Recommendation: Obtain legislative authority to transfer individual weapon system Procurement funds to RDT&E.

Advantages: Provides DoD with more flexibility to resolve weapon system funding deficiencies.

Avoids program delays associated with OMB/ Congressional review and approval of funding adjustments.

Maintains program stability by enabling program manager to resolve problems within total available acquisition funding of the program involved.

Disadvantages: OMB/Congressional visibility occurs after the fact.

Could jeopardize current appropriation and authorization process.

Could jeopardize current reprogramming arrangements with Congress.

May be destabilizing.

Action Required: ASD(C), working with the General Counsel, OMB and Congress establish procedures for DoD approval of the transfer of funds in a given fiscal year from Procurement to RDT&E for an individual weapon system when the Secretary of Defense determines that it is in the National Interest to do so.

Approved: _____

Idea Needs More Development: _____

I Need More Information: _____

Disapproved: _____

Recommendation 16

CONTRACTOR INCENTIVES TO IMPROVE RELIABILITY AND SUPPORT

Industry has said that even though there is recently more attention paid to "support" in DoD solicitations, there is a widespread belief that performance and schedule are DoD's principal objectives. There is a need for industry to apply more of their design talents to reducing reliability and support problems. Beyond this a need to improve the identification and specification of maintenance manpower constraints and for industry to include these constraints in the designs. (C-4)

Recommendation: Acquisition strategies should identify the approaches to incentivize contractor attainment of reliability and maintainability (R&M) goals and reduce maintenance manpower and skill levels. These should include the approach taken in the RFP evaluation, as well as specific awards, incentives and guarantees, such as specific rewards for improving reliability. The Services should develop greater expertise in support related contractor incentives through analysis of experience gained on DoD programs.

Improvements should be developed in the method of projecting critical maintenance manpower skill limitations and translating these into design constraints and objectives for inclusion in RFPs and specifications.

Advantages: Improves reliability and support. Reduces maintenance manpower requirements.

Disadvantages: Incentives other than competition require additional funds.

Action Required: USDRE working with the Services, develop guidelines to include the approaches to incentivize contractors to improve support within 60 days, followed by a USDRE and Service evaluation of incentives within the next year.

USDRE develop with the Services, within one year, improved approaches to translate maintenance manpower skill projections into system design objectives.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

Recommendation 17

DECREASE DSARC BRIEFING AND DATA REQUIREMENTS

During recent years there has been a growing tendency to centralize the decision process within the DoD. This practice has multiplied throughout the numerous levels of authority in each of the Services, and has complicated the review process. This practice has, in and of itself, lengthened the acquisition cycle; created cost increases due to delays in decisions; confused the authority, responsibility and accountability of the designated Services Managers; and has stifled innovation which could produce program improvements leading to cost savings. The principle of decentralization should be applied to acquisition management.

Recommendation: Emphasize the requirement to achieve appropriate delegation of responsibility, authority and accountability to and within each Service for system acquisition to reduce the time and effort required for DSARC and Service major system reviews.

Advantages: Reduced system cost and shorter acquisition cycles. More efficient reporting by and within the Services. More streamlined program management. More efficient DSARC and other program reviews. Potential elimination of layered management resulting in lean organizations.

Disadvantages: Some risk of losing a thorough functional analysis of the system because of the elimination of more detailed reviews.

Action Required: USDRE make explicit the changed character and the reduced number of briefings and data for the DSARC review.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

Recommendation 18

BUDGETING WEAPONS SYSTEMS FOR INFLATION

Historically, inflation predictions have been lesser than the actual inflation that come to pass. The situation has been most severe in major weapon programs that spend out slowly and extend into those years when inflation estimates have been poorest. The result is that unpredicted inflation has cut heavily into real program by as much as \$6 or \$7 billion a year. In addition to the serious underfunding of major weapon and other purchases, DoD is charged with poor management because of the amounts of cost growth in current dollars appearing in reports and in the process.

Recommendation: Review various methods and alternatives for budgeting more realistically for inflation.

Required Action: Comptroller and PA&E develop in more detail the various alternatives addressing the inflation issue as related to planning and budgeting for major acquisition programs and provide a decision paper to the Deputy Secretary of Defense within 30 days; discuss draft options with OMB and appropriate Congressional staff.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

22

Recommendation 19
FORECASTING OF BUSINESS BASE CONDITION AT
MAJOR DEFENSE PLANTS

The business base at key defense plants is not adequately considered in DoD program development. Cross-Service impacts and the effects of non-DoD work distorts business base projections and seriously increases overhead costs. This has caused large cost growth for certain weapons systems. Too little consideration is given to this factor in DoD planning and decision-making.

Recommendation: The Services will increase the effort to coordinate programming information that affects other Service overhead costs at given defense plants. Program offices will provide program projections to plant representatives so that overall business projections can be made available to the Services for planning and budgeting.

Advantages: Better cost estimates and lower cost to the government. Provides more realistic costs and stability.

Action Required: Contract Administration functions will be directed to maintain a business base projection, and government offices will be directed to support this effort and utilize these data in planning and budgeting. The OSD Cost Analysis Improvement Group (CAIG) will maintain a data exchange for the Services to assist in improved forecasting.

Approved:
Idea Needs More Development:
I Need More Information:
Disapproved:

Recommendation 20

IMPROVE THE SOURCE SELECTION PROCESS

Some DoD competitively-selected contractors have performed poorly. In some instances, source selection criteria do not sufficiently take into account past performance or plans for future phases of a program. Also, the credibility and realism of contractor cost proposals are not always challenged.

Recommendation: Improve the source selection process to place added emphasis on past performance, schedule realism, facilitization plans and cost credibility. De-emphasize the importance of lowest proposed cost. Devote more attention to evaluating contractors' performance during and at the time of contract completion. Provide award fee contract structure to encourage good performance. This both provides an incentive for good performance, and a measure of contractor performance to be used in future source evaluations. Establish quality ratings where possible and ensure these past performance ratings are available for use by source selection personnel.

Advantages: Eliminate poor performers, eliminate proposals that are unrealistically priced, thereby reducing the risk of buy-ins.

Disadvantages: May limit competition. Will be difficult to implement and apply fairly.

Action Required: USDRE modify the source selection directive, DoDD 4105.62, to emphasize the objectives stated above. USDRE establish a DoD system for recording, documenting and sharing contractor performance.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

Recommendation 21

DEVELOP AND USE STANDARD OPERATIONAL AND SUPPORT SYSTEMS

New subsystems and support systems are developed that are peculiar to specific weapon systems, yet have many performance features in common with other systems. Use of standard, off-the-shelf subsystems and/or support systems for some of the long lead time items can reduce development time. (A-11)

Recommendation: Identify and develop standard subsystems and support systems or their technology (independent of weapon systems) to meet projected weapon system needs. Support a program of weapon support R&D to put diagnostic, repair, and logistic technology on the shelf. } ←

Advantages: Earlier deployment with lower risk. Enhanced supportability. Reduction in operating costs.

Disadvantages: Standard systems or technology may not be best match for the weapon system needs. Requires increased funding to implement. Could be overemphasized.

Action Required: USDRE working with the Services submits a proposed program for FY 82 and beyond within six months.

Approved: R
Idea Needs More Development:
I Need More Information:
Disapproved:

Recommendation 22

PROVIDE MORE APPROPRIATE DESIGN TO COST GOALS

Design to Cost (DTC) fee awards are made as a result of paper analysis. There is little or no tie to actual costs in production. DTC incentive fees and awards are payable during and at the conclusion of Full-Scale Development. Award is based on the forecasted average cost for the production quantity.

Recommendation: Provide appropriate incentives to industry by associating fee awards to actual costs achieved during the early production runs.

Advantages: Ties award to "real" achievement. Makes DTC meaningful.

Disadvantages: Changes in program (rates, quantity, inflation, etc.) complicate analysis of results. Longer time between DTC effort and award payment.

Action Required: Insure program managers and contracting officers develop contract terms and procedures to provide for the payment of Design to Cost (DTC) awards and incentives based upon costs actually achieved during early production runs. Base payments on demonstration that initial costs are on track with DTC goal for total forecasted production.

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

Recommendation 23

ASSURE IMPLEMENTATION OF ACQUISITION PROCESS DECISIONS

The acquisition process has been studied many times by many organizations. Most of the recommendations presented here have been made before. However, few of these recommendations have been implemented. Congress, GAO, OMB, OFPP, industry, and OSD have continuously criticized the Services for not following DODD 5000.1 and DODI 5000.2. A recent Navy acquisition study reviewed the implementation status of past acquisition process studies and found that of 50 recurrent recommendations, some progress is perceived to have occurred in 29 and almost no progress is perceived to have occurred in the remainder.

A difficulty with implementing recommendations regarding the acquisition process is the great number of players involved to make implementation succeed. This requires persistent, intensive, follow-up effort to make sure that the recommendations really do take hold. The most common reason for non-implementation is simply that relentless action on the part of top management is not taken to insure that recommendations are, indeed, implemented. OSD has, in the past, focused a great amount of management attention on policy development and resolution. However, OSD has not monitored implementation of the policies on a program basis.

Since potential decisions could lead to major changes to the process and even to DoD organizations and their roles, it will be difficult for the existing DoD organizations to execute changes without high level attention by the SecDef and DepSecDef. Elimination of the complexity inherent in the current process is masked unless the many different types of changes are considered in terms of the aggregate administrative and reporting load generated.

A fundamental determination which is required for each decision is whether implementation should reflect centralized control under OSD or decentralization to the Services. In selected areas a uniformity of action across Services may be desired.

Recommendation: Ensure that a determined management translates approved recommendations into implementable direction and fixes responsibility so that management has visibility of the actions taken. 3 ←

Advantages: This plan will not succeed without a well planned, intensive, high visibility, relentless implementation phase. Without this effort, this report will degenerate into another study.

Disadvantages: Implementation will require a priority and time commitment from all levels of management ranging from the SecDef to the Program Manager for a number of years.

Action Required: a. Assign overall responsibility to USDRE for monitoring and follow-up of all decisions made in this report.

b. USDRE will assign a prime responsibility for action on every recommendation and decision in this report. In general, these assignments have been specified under the "Action Required" sections; however, in certain cases specific action responsibilities will be defined in the immediate future.

c. USDRE should consider utilizing a working group containing OSD and Service representatives to assist in implementation.

d. USDRE should consider utilizing a number of creative techniques to translate the intent of these recommendations to all levels. This could include formal training sessions, conferences, video taped training films, articles, and policy letters.

e. Both the SecDef and the DepSecDef must maintain a personal interest in ensuring that the changes are implemented, that there is continuous action to improve the acquisition process, that periodic reviews take place, and that all Services and OSD staff be made aware of the SecDef priority interest on this subject.

Approved: _____

Idea Needs More Development: _____

Need More Information: _____

Disapproved: _____

MAJOR ISSUES FOR DECISION

This section presents for decision on the major issues identified in the Defense Systems Acquisition Review.

A. Issue: WHAT SHOULD BE THE SECDEF (DSARC) DECISION MILESTONES?

The current process provides four discrete SecDef decision points. All of the alternatives discussed below retain the current "milestone" process structure. However, all alternatives either de-emphasize or reduce the number of formal OSD level milestone reviews and SecDef decisions. Under some alternatives certain milestone reviews are delegated to the Service Secretaries. The Secretary of Defense decision authority and acquisition policy responsibilities are maintained and exercised through the PPBS process and/or by invoking explicit disapproval of proposed Service program acquisition decisions at any stage in the cycle. There are four alternatives shown schematically on page

Alternative One (Page D-11) reduces the current four discrete SecDef decision milestones to three (with flexibility for only two) by altering Milestone Zero.

Milestone Zero SecDef review and decision is accomplished through the annual Planning, Programming and Budgeting System (PPBS).

Although Milestone I is retained, a SecDef decision would generally be necessary only when a program requires a significant prototype (Advanced Development) phase. When held, Milestone I documentation would be reduced.

Milestone II and III reviews would continue to be conducted by the DSARC with final approval action by the SecDef. Any pre- or post-Milestone III reviews deemed necessary would be held at the Service level except under unusual circumstances.

- Pro: - Reduced administrative burden.
- Increased flexibility
- Initial development program reviews and decisions are speeded.
- Con: - May be perceived as a lessening of SecDef control.

Alternative Two (Page D-16) reduces the number of formal SecDef DSARC reviews to Milestones II and III.

Milestone 0 would be reviewed by OSD during PPBS as in Alternative One above.

Milestone I would be delegated to the Service Secretaries. SecDef authority and oversight is maintained through notification of Service decisions with veto/disapproval authority if necessary.

Milestones II and III receive a full DSARC review and DSARC approval.

- Pro: - Further delegation of program responsibility and reduction in administrative burden.
 - Front-end process is speeded as in Alternative One.
- Con: - Further reduction in SecDef control over acquisition of major programs at front-end; may restrict SecDef ability to redirect due to program momentum.
 - May not be considered proper implementation of A-109 with regard to Milestone I (A-109 requires SecDef to retain decision authority at the four Milestone Decisions).

Alternative Three (Page D-19) reduces the SecDef decision milestones to two, but ensures full SecDef involvement in major program initiation, and improved program definition for program go-ahead. The first decision point, "Requirements Validation: (equivalent to combination of Zero and One), serves as a full DSARC/SecDef review and approval of major program initiation including threat, weapons concept, risk and schedule, readiness, and affordability goals. At this point a specific "not-to-exceed" dollar threshold is established which sets the funding to carry the program through Concept Validation and early Full-Scale Development activity up to the second decision point, "Full-Scale Development and Production." The goals to be achieved by, and the timing of the second SecDef decision point are defined at the first decision point.

The Program Go-Ahead, second SecDef decision point, occurs somewhat later than Milestone II in a "normal" program schedule, and it is selected to coincide with Preliminary Design Review. SecDef retains source veto/disapproval of a Service proposed action and program plans which shall include Full-Scale Development and Production, the program plan for Test and Evaluation, Support and Readiness, and the total acquisition strategy.

The production program review is delegated to the Service Secretary if there are no major changes to the program approved at the second decision point by the SecDef.

- Pro: - The administrative burden is reduced by fewer OSD level reviews.
 - The review levels are linked more closely to major expenditure increases.
 - Program commitment is delayed until program technical, performance and cost factors are more accurately determined.
 - Provides more efficient transition between development and production.
- Con: - Same Cons as above; in addition the divergence from A-109 language is more acute.
 - No separate SecDef production decision required.

Alternative Four (Page D-24) eliminates all SecDef decision milestones and delegates total program review responsibility to the Service Secretaries. The DSARC could be invoked at SecDef discretion but generally the SecDef would exercise control and decision authority on a by-exception veto/disapproval basis. Milestone Zero would be conducted through the PPBS process as described earlier.

- Pro: - This alternative goes the furthest toward decentralization and reduction in administrative burden.
- Con: - SecDef direct control of major acquisitions is substantially reduced. Perceived violation of the intent of A-109 as regards agency head responsibility.

Action: USDRE revise DoD Directives 5000.1/2 appropriate to alternative selected.

Decision:

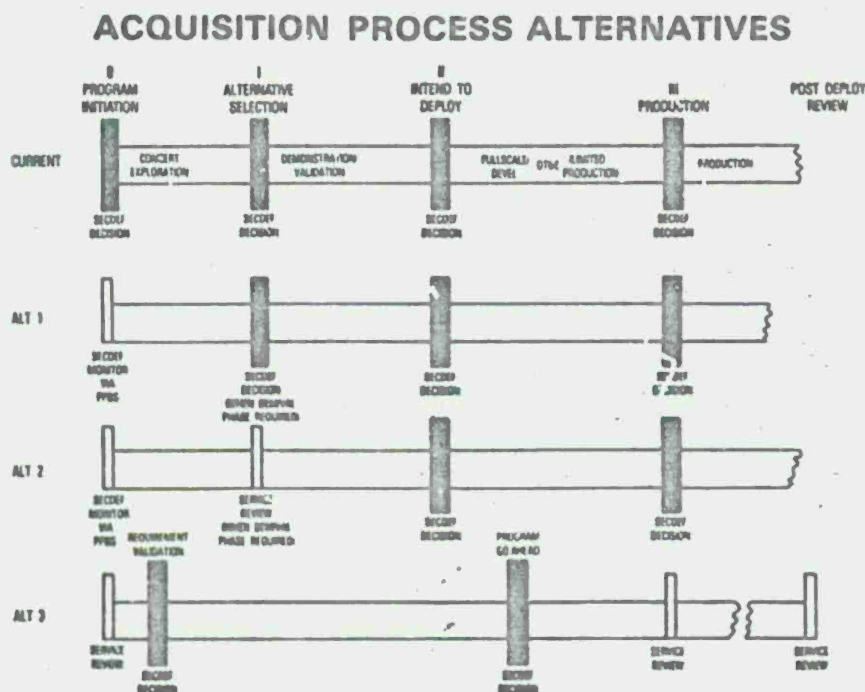
Current: (Four SecDef Milestone Decisions)

Alternative 1: (Three SecDef Milestone Decisions)

Alternative 2: (Two SecDef Milestone Decisions)

Alternative 3: (Two SecDef Milestone Decisions)

Alternative 4: (Zero SecDef Milestone Decisions)



B. Issue: SHOULD MENS BE ELIMINATED/REVISED?

Problem: The Mission Element Need Statement (MENS) is an internal DoD document used to support the SecDef decision at Milestone 0. The MENS is required by DoD implementation of OMB Circular A-109 (1976) requirements to state needs in terms of mission and that SecDef should certify the need. The MENS was to be 5 pages or less. In practice staffing has increased and detailed justification information often requested by OSD has contributed directly to perceptions of growth in the "front end" of the acquisition cycle. There are 30 MENS currently approved. (D-27)

Alternative One would require submission of the MENS (shortened or as currently required) no later than with the Service POM thus linking the acquisition and PPBS process. SecDef approval of MENS would be by accepting POM in the absence of specific disapproval.

- Pro: - Consistent with reduced SecDef review options.
- Better integration of acquisition and PPBS processes as "new starts" would be reviewed in the context of the full Service/DoD budget formulation process.
- SecDef decision authority retained, but exercised by exception in the budget process.
- Con: - Some reduction in SecDef visibility and influence over preliminary program plans.

Alternative Two would eliminate MENS document entirely; Congressional Descriptive Summary (and other POM documentation already required) would document Milestone 0.

- Pro: - Reduced paperwork, simplified program documentation.
- Con: - MENS has been given considerable visibility in OFPP, OMB, and GAO, could be viewed as circumvention of A-109 though MENS not specifically required by A-109.

Action Required: USDRE revise DoD Directive 5000.1/DoD Instruction 5000.2 appropriate for alternative selected.

Decision:

Alternative 1
Alternative 2
I Need More Information.

C. Issue: SHOULD DSARC MEMBERSHIP BE REVISED?

Problem: Service Secretaries have statutory responsibility for the execution of contractual and financial responsibilities for their departments, yet they are not voting members of the DSARC. Service Chiefs also have no vote although they will be responsible for developing and operating the systems under consideration.

Alternative One would maintain current membership. (USDRE, Chairman; USDP; ASD(C); ASD(MRA&L); ASD(PA&E); Chairman, JCS; plus others in special cases).

- Pro: - Retains DSARC as a SecDef staff advisory council.
- Con: - Could place the DSARC in a position of recommending a position that is contradictory to that of the Service line executive responsible to the SecDef without explicitly reflecting the Service position.

Alternative Two would include the appropriate Service Secretary or Service Chief as full members of DSARC.

- Pro: - Provide SecDef with a broader advisory council.
 - Reduces adversary nature of current procedure.
- Con: - Reduce the independence of the DSARC as OSD advisor to SecDef.
 - Increases the size of the DSARC.

Action Required: USDRE revision of DoD Instruction 5000.2 required.

Decision:

Alternative 1	_____
Alternative 2	_____ <i>W</i>
I Need More Information	_____

D. Issue: WHO SHOULD BE THE DEFENSE ACQUISITION EXECUTIVE (DAE)?

Problem: Current policy requires that a DAE be designated by the SecDef to be the principal advisor and staff assistant for the acquisition of defense systems and equipment. The USDRE is designated the DAE. However, the scope of the function encompasses procurement of material to support and sustain the force. There is continuing competition between modernization readiness, maintenance of forces and sustainability. The USDRE has primary staff responsibility for force modernization efforts of DoD. (D-32)

Alternative One would retain USDRE as the DAE.

- Pro: - The USDRE is clearly the OSD executive with the greatest technical knowledge and systems development expertise.
- Con: - Primary USDRE responsibility is developing weapon systems as opposed to operating, maintaining, or supporting the military force.
 - The effort to rationalize and fund competing programs suffers because USDRE could be an R&D proponent himself.

Alternative Two would designate DepSecDef as DAE.

- Pro: - Improved balance between modernizing and operating the force and a more coherent defense program could result from having DepSecDef chair both the DRB and the DSARC.
- Con: - Increases the level of DepSecDef involvement in the acquisition process. USDRE is the OSD technical and system development expert.

Decision:

Alternative 1	<u> <i>JK</i> </u>
Alternative 2	<u> </u>
I Need More Information	<u> </u>

E. Issue: WHAT SHOULD BE THE CRITERION FOR SYSTEMS REVIEWED BY DSARC?

Problem: Currently, there are over 50 major programs designated for DSARC review. Although dollar thresholds (currently \$100M RDT&E or \$500M procurement in FY 1980 \$) are "guidelines," they are generally the rule of thumb used to select major programs. Major program designation is derived by subjective judgment based upon joint Service participation, estimated funding, manpower and support requirements, risk, politics, and other Secretary of Defense interests. (D-33)

Alternative One would continue present system.

- Pro: - The current system allows flexibility in designation, and does not force uncontroversial programs to become major strictly because of large investment.
- Con: - The largely subjective criteria causes uncertainty, and may be susceptible to an arbitrary designation.

Alternative Two increases dollar guidelines for major system designation to \$200M RDT&E and \$1B procurement in FY 80 \$.

- Pro: - The number of Service DSARCs and DSARC would be reduced approximately 25% while still insuring review of the most expensive major systems.
 - Uncertainty and the opportunity for arbitrary, unnecessary designation are reduced.
- Con: - Reduces number of major systems of significant investment not reviewed at Secretary of Defense level.

Action Required: USDRE revise DoD Directive 5000.1/DoD Instruction 5000.2 if Alternative Two is adopted.

Decision:

Alternative 1	_____
Alternative 2	_____ <i>22</i>
I Need More Information	_____

F. Issue: HOW SHOULD THE DSARC/PPBS DECISION BE INTEGRATED?

Problem: It has been the perception that a DSARC endorsement and subsequent SecDef approval commits the SecDef/Service to fund the program as approved. This has led to confusion as to program status and stability. The DSARC process reviews single programs at significant milestones to determine readiness to proceed to the next phase. It is not feasible in that context to assess the financing of a major program vis a vis other Defense requirements. In contrast, the PPBS addresses all programs within a resource allocation framework without an in-depth review of technical issues and program structure. This "disconnect," the lack of explicit resource commitment (including support and manpower) resulting from a successful DSARC review and subsequent SecDef approval, is frequently cited as a flaw in the acquisition process. (D-35)

Alternative One continues present practice.

- Pro: - Allows funding decisions during POM/budget development.
- Con: - Fosters program instabilities when DSARC program is not supported in PPBS cycle.
- May void contract with industry.

Alternative Two resolves the interface problems by providing that programs reviewed by the DSARC will be accompanied by assurance that sufficient agreed to resources are in the FYDP and EPA or can be programmed to execute the program as recommended. DSARC review would certify the program ready to proceed to the next acquisition stage. Affordability in the aggregate would be a function of the PPBS process.

- Pro: - This would lead to DSARC endorsement of fiscally executable programs and fosters program stability through resource commitment.
- Con: - Funding constraints may be set without regard to technical issues.

Alternative Three has the DRB assume the functions of the DSARC. This also makes DepSecDef the Acquisition Executive.

- Pro: - Decisions made by single body; no need to revisit in another forum.
- Forges a closer linkage between the acquisition process and the PPBS.
- Con: - Current DRP membership not optimal for technical program reviews.

Action Required: Alternative 2--DAE enforce current DoD Directive 5000.1 affordability policy and USDRE revise 5000.1 to strengthen policy and eliminate confusion.

Alternative 3--USDRE revise DoD Directive 5000.1/DoD Instruction 5000.2 to reflect changes in role and membership of DRB.

Decision:

Alternative 1	_____
Alternative 2	_____ <i>je</i>
Alternative 3	_____
I Need More Information	_____

G. Issue: PROGRAM MANAGER CONTROL OVER LOGISTICS AND SUPPORT RESOURCES

Problem: Three programming and budgeting problems are disincentives for program managers to provide system support and readiness.

1. Support program and budget requirements are based on experience related measures (unrelated to readiness) instead of a system's support requirements and readiness factors.
2. Budget review by appropriation categories. The fielding of a weapons system involves several appropriations: R&D, procurement, military construction, operation and maintenance and military personnel. Normally budget decisions in these accounts occur without visibility of the impact on individual system's support or readiness.
3. Budget execution. Some weapon support funds (spares, training, depot) are controlled by Service activities not responsible to the program manager. Sometimes priorities do not match the program manager's and funds are diverted to fund other requirements.

The Program Manager may not know of or participate in PPBS decisions which impact on his system's support. Once decisions are made on his system's support, they may be altered by another activity during budget execution. This is particularly critical early in FSED as well as during the transition to production when large initial support resources are spent. At any given time, there would be an estimated 15-20 weapons total involved in transition. Procurement of spares with contracts separate from the system production contract increases spares costs.

OPTIONS: Alternatives 2 and 3 below would apply to selected weapon systems, those nearing production or in early production (15-20 systems). A two year trial is recommended for the selected alternative.

Alternative One would continue present management system (use traditional/experience related measures to review system support program and budget requirements; review budget by appropriation categories.

- Pro: - No cost of change.
- Con: - Disincentives for program manager to provide system support readiness remain. Budget review and budget execution problems are not addressed.
- Little program manager input to support budget execution.

Alternative Two would have Services submit with the POM support resource requirements and readiness objectives, by weapon system, for systems entering/or in early production. Direct OSD to have a single review of support associated with individual systems.

Pro:

Gives more PPBS visibility of the combined effects of major support decisions on readiness objectives.

Removes PPBS disincentives by reducing independent budget/PPBS decisions without visibility of effect on program as a whole.

Would move in the direction of a more mission oriented budget decision process.

Con:

Some extra work for the reviewers.

Alternative Three is the same as two but would additionally develop procedures to give the PM more control of support resources, funding and execution. Services would develop implementing approaches to deal with the problems identified on this issue. The basic option should give the Program Manager a voice in support resource allocation and budget execution process through increased and centralized resource visibility and coordination by the PM on changes to his plans.

Pro:

Giving the Program Manager a voice (or coordination) in major support resource decisions for his program would improve responsibility.

Con:

A moderate step requires procedural changes and may or may not be effective. More direct control of many resources would unbalance the overall use of logistic resources by the Service.

Action Required: ASD(MRA&L) letter to Services stating objectives to give more incentives to PM. ASD(MRA&L) would work with the Services to define and evaluate implementing options. Initial letter can be prepared within 30 days.

Decision:

Alternative 1 _____

Alternative 2 _____

Alternative 3 X

I Need More Information _____

II. Issue: IMPROVING RELIABILITY AND SUPPORT FOR SHORTENED ACQUISITION CYCLE

Problem: In response to serious readiness and reliability problems in many of the systems we now operate, there have been increases in Service and OSD efforts to define reliability and support objectives and to demonstrate their accomplishment prior to major production commitment. Recent acquisition policies include this increased emphasis.

The new focus on shortening the development process is potentially in conflict with initiatives to improve reliability and support. Whereas the fastest acquisition approach involves initiating production prior to test of development models, the highest confidence of achieving reliability and other support goals in fielded hardware involves iterative design and testing before high rate production. A balance must be struck on each program. Many of the serious problems in current systems result from not striking the correct balance.

For those systems which are run on a fast track, there are requirements for additional early funding to design in reliability and support characteristics - including the need to pay this price in parallel or competing developments. Additional in-house talent must be brought to bear, and industry incentives need to be applied to avoid previously experienced support problems.

Because of the relative priority of reliability and support efforts compared to performance objectives, and the current shortage of in-house talent to address these problems, specific top management attention, priority and stress on support resources is needed.

Alternative One modifies the current acquisition procedures to require a specific early decision (circa Milestone 1 on many programs) on the approach, additional resources and incentives which will be used to balance the risks in the reliability and support area on each program. The vehicle for decision can be an acquisition strategy prepared by the Program Manager. This should include an option which goes as far as possible in extra efforts (design, parallel testing, contractual) to increase the likelihood of achievement of support objectives on concurrent programs.

- Pro: - Early decision on degree of concurrency sets in motion long lead steps to reduce support risks.
- Results in conscious decision to balance all the objectives in the light of Service and DoD priorities.
- Gets additional early resource needs considered.
- Provides clear support objectives to PM.

- Con: - Will require more up-front funds. Will be viewed by some as addressing support too early.
- Additional responsibility for PM (but the clear decisions may be helpful).

Alternative Two shifts more of the focus to fixing reliability and support problems experienced in fielding the system by subsequent redesign of production hardware and incorporation of fixes. Rely more on interim contractor support while problems are being fixed.

- Pro: - Easier to do.
- Leaves program manager freer to make the trade-offs without Service involvement.
- Con: - Requires more funds to fix later. Historically difficult to get funds for major fixes. Less likelihood of avoiding support problems.
- Congress will criticize the early fielding problems.

Action Required (If Alternative One is selected): USDRE issue guidance adding early assessment of support options to the current procedures. This could be part of a decision on overall acquisition strategy. Additionally request the Services to revise and develop support related planning guidelines.

Decision:

Alternative 1	<u> X </u>
Alternative 2	<u> </u>
I Need More Information	<u> </u>

ATTACHMENT ONE

DEPSECDEF TASKING MEMORANDUM, 2 MARCH 1981

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THE DEPUTY SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

2 March 1981

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
ASSISTANT SECRETARIES OF DEFENSE
GENERAL COUNSEL
ASSISTANTS TO THE SECRETARY OF DEFENSE

SUBJECT: Improving the Defense Acquisition System and
Reducing System Costs

The Secretary and I have initiated a review of PPBS. We also intend to make major improvements in the Defense Acquisition System and to strengthen and improve the interface between these two key DOD management systems. Our priority objectives are: reduce costs by looking for substantial and real savings in the acquisition of major weapons systems; improve the acquisition process and make it more efficient and more effective; increase the stability in our programs so that long-range Service program funding is more predictable; assure that the acquisition system decisions are closely coordinated and in consonance with the PPBS decisions; require that appropriate long-range business strategies and planning tools are put in place to reduce unit costs; and increase the quality while decreasing the delivery time of military hardware and civilian services. This will require improved long-range resource planning in all aspects of the acquisition process. It will also require increased participatory management, involving the Joint Chiefs, the CINCs, and all of the Military Services working together with the Secretary's staff.

I am asking Mr. Vincent Puritano, my Executive Assistant, to immediately establish and chair a Steering Group to assess options for improving the acquisition process and to make recommendations to the Secretary and me by March 30th. These recommendations should be specific and workable, and provide for immediate improvements without major disruptions to the current programs. Longer term adjustments, if needed, should also be proposed by the Steering Group. The Steering Group should not conduct or recommend a study of the acquisition process; it has been studied many times by consultants, by internal review groups, by GAO and Congressional committees and, recently by the Defense Science Board. The Steering Group members should review all these studies and recommendations so that

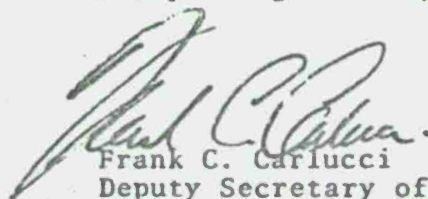
they can immediately identify and evaluate major options for improving the acquisition process that can be put into effect upon approval by the Secretary of Defense and myself. I then expect to follow-up aggressively to assure that decisions are implemented.

Attached is a preliminary list of issues and concerns for Steering Group discussion. The Secretary and I will be looking for options and recommendations that will assure we are buying adequate quantities of high priority weapons systems while simultaneously eliminating lower priority programs; that will reduce costs; that will not only make the process more efficient but will also provide the flexibility to tailor acquisitions to specific needs; that will reduce the overall length of time for acquisition but simultaneously provide more long-term stability; that will build in more effective long-range planning in order to assure that acquisition decisions are made in the context of broad national security requirements and funding constraints; that will provide more multi-year contracting opportunities; and finally, that will make the DSARC and PPBS processes more complementary and eliminate repetitive decision-making in both systems while maintaining enough flexibility to alter programs when necessary based on changed national priorities.

Another major acquisition issue, Industrial Preparedness, is being addressed separately. The recommendations of this group should be consistent with increasing Industrial Preparedness.

In the early stages and as an integral part of your review, the Steering Group should also plan to obtain views of the DOD acquisition process from appropriate industry and contractor representatives. Their experiences should help us improve the process.

The DOD acquisition system is most complex and your full cooperation and assistance is needed to assure that we truly improve the process and achieve beneficial effects on the costs of weapons systems and on program stability. Please advise Mr. Puritano immediately as to your member of the Steering Group. We will then schedule the first meeting of the Steering Group next week. The agenda for this first meeting will include discussions of the objectives and organization of this effort as well as the initial development of the issues and options for improving the acquisition process.



Frank C. Carlucci
Deputy Secretary of Defense

Attachments

ACQUISITION PROCESS REVIEW

ILLUSTRATIVE LIST OF ISSUES TO BE CONSIDERED

° How can we best ensure that DSARC decisions are affordable and that cost growth can be arrested and better controlled? Should major systems be prioritized so that, as costs begin to grow, lower priority programs in the mission area can be identified as an alternative source of funds? How can we assure that the budgeting for each program is more realistic? How can we identify cost savings on a continuing basis?

° How can we better integrate acquisition decisions with the PPBS?

° How can we improve the weapon system requirements process? How can we discipline the requirements process to eliminate gold plating? How can we assure that evolutionary product improvement to existing hardware is considered along with new systems starts in an overall acquisition plan to meet defense requirements?

° How can improved long-range planning be better integrated into the acquisition process? How should the impact of acquisition decisions on overall mission capability be addressed? How can the affordability and long-range funding requirements be better integrated with the technical performance requirements of major systems?

° How can more stability be brought to the acquisition process? How can production stretchouts and reduced rates of production thereby raising unit costs, be avoided? Should DSARC establish total program quantities and production rates? How can we apply more multi-year contracting where appropriate?

° How can readiness implications of acquisition decisions be better integrated into the acquisition process? How can reliability, maintainability, spares, munitions and manpower requirements of weapons acquisition decisions be considered during the process? Should the operational viewpoint of the CINCs on weapons requirements, particularly including readiness factors, be considered during the acquisition process?

° Should there be more flexibility in the acquisition process? How can we tailor the acquisition strategy to be more efficient and more cost effective for each program? How much authority should be given the Program Manager for the purpose of tailoring the acquisition strategy and trading of cost, performance and schedule? How much concurrency between testing and production should be in each program and how should this be decided?

° How can we reduce the excess time in the acquisition process? What steps can be eliminated or reduced with the objective of shortening the overall acquisition process? Do the OMB circulars need to be revised or reinterpreted in DOD?

° Should the role, process and members of the DSARC, as currently constituted be changed? What criterion should be used in selecting systems for review by the DSARC? How can we better coordinate the various viewpoints before the DSARC meeting? How can the DSARC be made more efficient?

PROPOSED SCHEDULE

Feb 27 DepSecDef appoints Steering Group.

Mar 4 Steering Group meets, agrees on terms of reference, schedule and procedure for review. Begins preliminary issue development, appoints working group.

Mar 4 to Mar 17 Working group identifies and reviews major issues, identifies options for improvement for Steering Group review, including inventorying existing recent studies of acquisition process; develops preliminary implementation plan.

Mar 17 Steering Group reviews options, gives working group detailed guidance for proposal to DepSecDef.

Mar 23 Steering Group reviews final proposal.

Mar 30 Steering Group delivers final proposal, including implementation plan, to DepSecDef for decision.

ACQUISITION PROCESS
STEERING GROUP MEMBERSHIP

<u>NAME</u>	<u>POSITION</u>	<u>ORGANIZATION</u>
Mr. Vincent Puritano	Chairman	Executive Assistant to the DepSecDef
Dr. James P. Wade, Jr.	Member	Acting USDRF
Mr. Robert A. Stone	Member	Acting ASD(MRA&L)
Dr. Jack Borsting	Member	ASD(C)
Mr. Thomas Christie	Member	DASD(PA&E)
Mr. Gerald A. Cann	Member	Acting ASN(RE&S)
VADM R. R. Monroe	Principal Observer	Director, Navy RDT&E
VADM M. S. Holcomb	Principal Observer	Director, Navy Program Planning
LTG Donald Keith	Member	DSRDA, Department of the Army
LTG Robert Lunn	Principal Observer	DARCOM, Department of the Army
Mr. James Williams	Member	DASAF(ACQ MGT), U.S. Air Force
MG Marc Reynolds	Principal Observer	DCS/AQ, U.S. Air Force Logistics Command
MG J. S. Abrahamson	Principal Observer	DCS/Systems, U. S. Air Force Systems Command
MG H. A. Hatch	Principal Observer	Deputy Chief of Staff Installations & Logistics HQ USMC
RADM Richard Paddock	Member	JCS/J5

ATTACHMENT TWO

WORKING GROUP ORGANIZATION AND MEMBERSHIP

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ACQUISITION PROCESS WORKING GROUP ORGANIZATION

CHAIRMAN: DR. PAUL J. BERENSON, OSD

Team A Reduce Cost (RDT&E and Unit Cost)

Chairman: Mr. Milt Margolis, OSD/PA&E

- Provide realistic costs
- Discipline weapons performance/technical requirements (eliminate gold-plating)
- Early cost/performance trade-offs
- Subsystem product improvements
- Increase stability (funding, schedule, production quantities)
- Reduce required paperwork
- Software
- Multi-year contracting
- Competition
- Increase productivity
- Provide incentives to personnel and organizations to reduce cost
- Provide management reserve
- Increase PM authority (specifications, cost trade-offs, etc.)

Team B Shorten Acquisition Time

Chairman: Brig Gen Roger Peterson, AF/RD

- System initiation (front end)
- Development time

- Procurement time
- Schedule, cost, performance trade-offs
- Testing implications
- Tailored acquisition strategy (concurrency, specifications, PM authority, etc.)
- Combined decision milestones

Team C Reduce Required Support Resources

Chairman: Mr. Russ Shorey, OSD/MRA&L

- Operational readiness (availability, spares, personnel, etc.)
- Address support during conceptual designs
- Include R&M design parameters
- Incentives and motivation (awards, contractual, etc.)
- Software
- DSARC realistic minimum objectives (Hardware vs Logistics)
- Operational test objectives and phasing
- Manpower specification skill level constraints

Team D Improve DSARC Process

Chairman: RADM Lee Kollmorgen, OP-96/Navv

- Role and membership
- Milestones
- Systems covered selection criteria
- Ensure mission area context for acquisition decisions
- Ensure affordability to procure adequate quantities. Realistic long range budgeting (acquisition and support).
- Integration with PPBS

-
- Reduce repeated revisiting of decisions
 - Acquisition Executive
 - Cross-Service integration and standards
 - Simplify process

Acquisition Process Working Group

30 March 1981

Dr. Paul J. Berenson	Chairman, OSD
Dr. Michael K. Korenko	Special Assistant, OSD
LTC John Bertelkamp, USA	Special Assistant, DSMC

Team A - Reduce Cost (RDT&E and Unit Cost)

Milton A. Margolis (Team Leader)	OASD (PA&E)
LTC(P) George W. Handy	DCSRDA (Army)
Gary Christle	OASD (C)
Erika Kussy	OASN (RE&S)
LTC Buzz Gillogly	HQ AFSC
Gordon A. Frank	USDRE-AP (PESO)
C. Geiger	NAVSEA
Qurt Bardy	DARCOM (Army)
RAdm J. B. Wilkinson	NAVAIRSYSCOM
LTC Joseph R. Calek	OASD (PA&E)

Team B - Shorten Acquisition Time

BGen Roger Peterson (Team Leader)	HQ USAF/RD, Dir, Pgm Integration
BGen E. Fox (Ass't Team Leader)	OSD, Ofc Dep Dir, Test & Evaluation
Capt W. Hauenstein, USN	USN, Dir Acq Policy
Col Curtis G. Lawson, USMC	ASN (RE&S)
Col. Norman A. McDaniel, USAF	HQ USAF/RD, Mgt Policy Div, Chief
Col. John W. Moore, USA	OSD (MRA&L), Wpn Spt.
Col. Donald J. Couture	USAF, OUSDRE (TWP)
LTC David L. Click, USA	OASD(C)
MAJ Lou Kouts, USAF	HQ AFSC
LCDR Robert L. Porter, USN	Navy, OP 098
Dr. James J. McLeskey	Army DARCOM
Mr. Douglas Kinney	OSD (PA&E)
Mr. Fred Reinhard	OUSDRE (AP) MSA
Mr. Ronald A. Davidson	OSD (C)

Team C - Improve Weapon Support and Readiness

Russ Shorey (Team Leader)	OSD (MRA&L)
Janet Weisenford	OSD Compt. Spec. Proj
Maj Gene Faggard	AFSC/AFLC
Col Tom Misson	OUSD(R&E) AP
LTC Frank Tubbesing	OUSD(R&E) DDTE
Emerson Cale	NAVMATO 421
LTC Bruce W. Ewing	HQ USAF/LEYE
Maj Tom May	PA&E
CAPT Robert C. Powers	DSB/OP-098R
John Sylvester	NAVAIR (Air-41)
Frank McDonald	OSD/PA&E
Col Sam Meyers	ASA (R, D, A)
M. Meth	OSD (MRA&L)
LTC Larry Davis	DA/DSLOG
Maurice Cleveland	OSD (Compt)

Team D - Improve DSARC Process

RADM Lee Kollmorgen (Team Leader)
Dave Hessler (Assistant Team Leader)
Capt George Hillips
Capt Don Ledwig
Col John McNerney
Lt Col Ken Wheeler
Lt Col Dave Dibell
LTC Gary Hyde
John Smith
Mike McGrath
LCDR Jim Buttinger
Bill Krulak
LCDR Eric Briggs
John Tino
Charlie Watt
LTC Jack Bertelkamp
Jim Thompson
Dave Anderson

CNO (OP 96)
OSD (C)
OJCS (J5)
NAVMAT-08C
DCS RDA
AFSC (SDZ)
AF/RD
OUSDRE
OUSDRE (AP)
OSD (MRA&L)
OSD (C)
OSD (PA&E)
CNO90P-96)
ASN (RE&S)
OUSDRE
DSMC
OASD (ISA)
OUSDRE

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Richard A. Harshman (Assistant Team Leader)
Manuel Briskin
Herbert L. Fisher
CDR Edward J. Bano
Michael Korenko
George Dausman
Neil Ginnetti
Leonard Keenan
Capt R. Jones
John H. Flaherty
Margaret A. Olsen
Charles P. Nemfakos
Col Richard Johnson
LTC Larry O. Cox
LTC Gary Lafors

OUSDRE (AP)
OASD (C)
OGC
OUSDRE
OUSDRE
Spec. Assistant to SecDef & DepSecDef
OASA (RDA)
OASA (IL & FM)
Comptroller (DACA)
OASN (MRA&L)
NAVMAT
OGC-N
Comptroller (NCBB)
Comptroller (ACBI)
AF/RDCS
AFSC

Team F - Industry Review

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Fairchild Republic Company

Mr. Hugh Witt
Vice President
Government Relations
United Technologies Corporation

Mr. Douglas M. Heller
Director of Research
Martin-Marietta Corporation

Mr. Walter L. O'Neil (Asst Team Leader)
Vice President
Government Relations
Hazeltine Corporation

Mr. Jack Conish
Group Director
Quality Assurance and
Reliability
Bendix Corporation

Mr. Arnold Pazornik
Assistant Vice President
and Director of Contracts
ARINC Research Corporation

Mr. Harvey Kishner
President
ORI

Mr. Wallace H. Robinson, Jr.
President
NSIA

Mr. James F. Drake
Advance Program Planning
Corporate Director
Hughes Aircraft

Mr. Sidney Tiedd
Manager, Naval Marketing
Newport News Shipbuilding
(Program Management)

Mr. Charles George
Industry Chair
Defense Systems Management
College

Dr. Richard Webster
Executive Assistant to the
Vice President, Defense Group
Westinghouse Electric
(Dr. Webster is expert in Logistics)

Mr. Dale Babione
Director for Government and
Business Relations
Boeing Company

Mr. Frank Bane
Director, Government Business
Policy
TRW

Mr. Frank Besson, Jr.
AM General

Mr. John Howland
Counsel, Westinghouse
Electric Corporation

Colonel A. F. Bond, USA (Ret.)
Committee Executive
Procurement Committee
NSIA

Mr. Robert G. Gibson
Consultant, Lockheed Aircraft

In addition to NSIA Industry Review Group (26 March 81), listed below are NSIA industry members who participated in the development of the 29 ideas transmitted to Acquisition Working Group on 17 and 18 March 1981 respectively:

John Wood Adm. for Acctg. Practices	-	IBM Corp
William Huber Mgr. Products Assurance	-	Norden Div. United Technologies Corp.
Cecil Covington Mgr Government Relations	-	Texas Instruments, Inc.
Harry Gunther Planning Advisor	-	Defense Electronics Systems, Westinghouse Electric Corp.
Seymour Herman Manager	-	Arthur Anderson Co.
Al Thumser Government Contracts	-	General Electric Co.
Wilsie Adams Attorney (Proc.)	-	McKenna, Connors & Cuneo

ATTACHMENT THREE

INDUSTRY INPUT AND REPRESENTATIVES

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J.B. Jackson
Vice Chairman,
Executive Committee
W. H. Robinson, Jr.
President

APR 10 1981

Mr. Vincent Puritano
Executive Assistant to the
Deputy Secretary of Defense, and
Chairman, Acquisition Process
Steering Group
Office of the Secretary of Defense
Washington, D.C. 20301

Dear Mr. Puritano:

This refers to your letter of 24 March 1981 relative to the DoD review of the acquisition process. In that letter, you expressed determination to improve the acquisition process in ways that will reduce cost, shorten acquisition time, provide stability, provide flexibility and in general assure the acquisition of adequate quantities of needed equipment. We appreciate your including an industry group representing companies of member associations of the Council of Defense and Space Industry Associations (CODSIA), including NSIA, to participate in the project.

The industry group has reviewed the Acquisition Process Working Group Report, is pleased with the recommendations contained in the report, and also to find that the report reflects the industry ideas and recommendations that were provided by the group.

We consider this review of the acquisition process to be critical and timely. If we can be of further assistance in planning implementation of the recommendations, please feel free to call.

Sincerely,

Wallace H. Robinson, Jr.
President

WHR/AFB/dm

INDUSTRY RECOMMENDATIONS

The ten most important problems as viewed by industry are given below with recommendations intended to address each problem which are listed in order of importance.

These recommendations were developed through the National Security Industrial Association (NSIA) by an assembled group of industry personnel representing member companies of member associations of the Council of Defense and Space Industry Associations (CODSIA).

1. INDUSTRY INCENTIVES

Change the current policy relating to depreciation cost, profit, cancellation ceilings and "one-year" contracts to provide adequate incentives for companies to invest in capital assets that would increase productivity and reduce acquisition costs. This would motivate companies to make significant capital investments to accomplish Defense contracts. It would provide protection to contractors more commensurate with risk. Such a change would also improve the industrial base by virtue of continuing modernization of facilities.

Change existing title, licensing, and data provisions of contracts to provide incentives for innovation in contract performance or commercialization of inventions. Title should normally rest in the contractor with a license only to the Government for Government use. The existence of a prior patent position should be recognized in the solicitation phase of acquisition.

RECOMMENDATION

- a. Recognize the cost of carrying working capital through modification of progress payment provisions and/or recognition of interest cost.
- b. Eliminate the cost of money offset (under CAS 414) for research and development and service contracts in the Weighted Guidelines method of determining the Profit Objective. This will encourage industry facilitation.
- c. Provide for negotiation of profit levels commensurate with contr. investment and risk.
- d. Recognize replacement depreciation costs by amending or repealing CAS 409, "Depreciation of Tangible Assets."
- e. Structure contracts to permit companies to share in the costs reductions resulting from new investments which provide for increased productivity.

- f. Expand use of multi-year contracts with realistic cancellation ceilings.
- g. Provide a consistent policy which will promote innovation by giving contractors all the economic and commercial incentives of the patent system.
- h. Provide policies to protect proprietary rights and data.

2. REDUCE PROGRAM INSTABILITY:

Problem: Program instability results from changes in DoD priorities by top level managers translated into program changes, redirections, starts, stops and stretchouts, principally during late stages of development and productions. Uncertainties and insufficiencies in funding (and, consequently, production rates and amounts) and in timing also affect industry's ability to plan and manage resource commitments. Cost growth and time delays are inevitable consequences. This also reduces industry's incentives to make required commitments for long-term support of Defense programs.

RECOMMENDATIONS:

- a. Eliminate marginal programs up-front in order to adequately fund priority programs.
- b. Establish Service commitments to long-range acquisition objectives, confirmed by SecDef (and OMB and Congress where possible) to ensure continuity in program priorities.
- c. Multi-year procurement: Expand to all major programs for which this is feasible.
- d. Eliminate micro-management at high levels of Service Material Acquisition agencies in OSD. Focus decision-making authority and responsibility on Program Managers.
- e. Make Economic Production Rates a priority SecDef issue in program and budget review. Aggressively work to convince OMB and Congress to commit to required funding levels to achieve economic production rates.
- f. Establish procedures which will allow phased scheduling of sequential milestone efforts so that manpower "peaks and valleys" can be eliminated.
- g. Commit DoD to concurrent, up-front funding of support-related items: spares, test articles, training systems, etc.

h. Expand role of industry in post-production maintenance to ensure continuity in life-cycle support. Specifically, apply A-76 guidelines to ensure that government in-house maintenance is absolutely required and is most cost-effective way to go.

3. OVERMANAGEMENT-SURVEILLANCE REQUIREMENTS

Recordkeeping, reporting, audit and surveillance requirements are unrealistic and demand support attention which is uneconomical and counterproductive.

Government personnel spend inordinate time checking compliance with many unnecessary requirements. Company employees tied down by these activities are not contributing to productivity.

Minimize the imposition of surveillance requirements to a level which ensures delivery of desired products without preempting the authority and responsibility of industry to efficiently perform on their contracts.

Reduce requirements for delivery of financial and technical data to a minimum. Inspection or briefing without providing copies should be the rule rather than the exception.

4. LACK OF COST REALISM IN COMPETITION

Too often contracts are awarded to the low bidder even though DoD in-house estimates reflect the unrealism of such a low bid. Industry perceives that in spite of stated evaluation criteria, the final decision is based on cost, and successive competitions become technically leveled auctions. The result of these actions is usually reflected in programs that overrun and that fail to meet schedule; also severe financial impact is often experienced by the contractor.

RECOMMENDATIONS:

- a. Eliminate the need for best and final offer by awarding competitive contracts to the most realistic bidder.
- b. Bids that are clearly unrealistic should be critically reviewed.

5. USE OF APPROPRIATE CONTRACT TYPES

RECOMMENDATION:

- a. Require the Services to use appropriate contract types and not use fixed price contracts in inappropriate circumstances--e.g., for research and development effort.

SecDef should promulgate a policy statement similar to the letter dated 27 Jan 81, subject: Total Package Procurement issued by Acting Deputy Under Secretary (Acquisition Policy).

6. MODERNIZE LAWS AND REGULATIONS GOVERNING THE ACQUISITION PROCESS

It has been estimated that there are nearly 4,000 different statutes dealing with acquisition. Each interaction of the Congressional process adds to the complexity and overmanagement.

Accelerate the review and consolidation of statutes prescribing the acquisition process and take advantage of Public Law 96-83 to design a vastly improved Defense Acquisition Process Foundation through the Uniform Procurement System (UPS) project underway in OMB.

This will simplify the entire Acquisition Management Process, reduce people and costs, and result in a better system.

RECOMMENDATIONS:

- Institute a program which makes industry participation in the development of implementation regulations mandatory.
- Create a compendium of all Public Laws impacting upon the acquisition process. Fully participate with OFPP of OMB in the design of the UPS and support OFPP to accelerate the creation by Congress of a uniform procurement law as a single source of authority.

7. UNDERFUNDING

When substantial front end investment is necessary to create competition, the program manager should demonstrate the potential benefits from competition (maintaining competition is not an end in itself). Technical competition during development which requires large investment should only be maintained if clearly advantageous, for instance when truly different concepts are pursued. These recommendations should be implemented by revising DoDD 5000.1 and DoDI 5000.2 to make generation of competition and dual development optional.

8. UNREALISTIC INFLATION GUIDELINES

Recent studies indicate that actual inflation in the defense industry is running considerably over current allowable OMB rates. Changing the inflation rates to a more realistic value will improve program stability and baseline projections in planning for production. It will eliminate "game-playing" with defense programs.

Realistic rates will also improve investment credibility in the defense industry and provide Congress with more reliable data for consideration of programs. Should reduce costs and time in the final analysis.

RECOMMENDATIONS:

- o Instruct the Services of the need to grant equitable escalation price adjustment (EPA) clauses in all appropriate procurements. Contract price adjustments made in accordance with EPA provisions should recognize the impact of inflation on profits.
- o Require that inflation rates for planning reflect realistic projections from recent experiences.
- o Program funding and subsequent contracting should not be based upon a current year dollar value.
- o Require that inflation indices reflect the defense industry's own inflation.

9. GOVERNMENT COMPETITION WITH INDUSTRY MAINTENANCE AND OTHER SERVICES

Implementation of OMB Circular A-76 in the area of Weapon System Maintenance has been very slow. The Services' Industrial Facilities Management are highly resistive to losing this business to industry. Yet--industry, by its very fundamental mission, has the capability - on line - to do this job. The resultant adversary relationships created by this situation are extremely difficult to correct under existing conditions.

RECOMMENDATION:

OSD(MRA&L) should direct the Services to consider contractor support options for life cycle support of weapons systems.

- o Extended contractor repair warranties should be encouraged for newly deployed systems.
- o Contractor depot maintenance should be preferred where cost-effective.
- o Engineering services should be contracted to industry when beneficial to industrial technology base retention.
- o Contractor maintenance options should be considered for all levels of support of low volume, high complexity systems.

(Payoff: High Implementation Responsibility: DoD Impact:
Near Term)

10. ADVERSARIAL RELATIONS

Since World War II, the DoD/industry interface has degraded. In spite of efforts of the first Secretary of Defense, Forrestal, to bring this gap (e.g., the formation of the National Security Industrial Association), little has been done to improve the situation. This adversarialism adversely impacts the defense/industry infrastructure in both productivity and capability. Lack of effective communication and participative management results in higher costs and lack of innovation.

RECOMMENDATION:

OSD (Acquisition Executive) should direct all staffs and Services to manage total weapons acquisition on a participative basis, using industry as a full team member.

- Program Management training should be revised to both reflect this policy and include equal industry participation.
- DSARC process guidelines should be revised to include industry participation in all phases.
- Career assignment interchange programs should be developed to promote more communication and understanding of program management of both DoD and industry.

(Payoff: High Implementation Responsibility: OSD Impact:
Near Term)



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W. H. Robinson, Jr.
President

18 March 1981

Dr. Paul J. Berenson
Deputy Assistant to the Secretary
of Defense (AE) (Assessment),
and Chairman, Acquisition Process
Working Group
Office of the Secretary of Defense
Room 3E1081
The Pentagon
Washington, D.C. 20301

Dear Dr. Berenson:

Reference is made to my letter dated 17 March 1981 transmitting the first increment of suggestions on "How to Improve the Acquisition Process".

Transmitted herewith is the second increment of ideas/suggestions.

I would like to re-emphasize that it is our belief that the following problems are the overall deficiencies that must be addressed if we are to attain an effective and efficient acquisition process:

- a. Overmanagement
- b. Lack of adequate industry investment incentives
- c. Unrealistic and overoptimistic forecasts relating to costs and inflation
- d. Proliferation of laws and regulations

We appreciate the opportunity to assist in your most timely and critically needed project. We stand ready to continue to support your efforts in any way possible.

Sincerely,

Wallace H. Robinson, Jr.
President

WHR/AFB/dm

Attachments (22)

Overmanagement of the Acquisition Process

Idea:

Reduce the number of decision-making levels and management reviews in the DoD acquisition process.

Problem:

As the DoD has grown, and criticisms have been made that there were insufficient controls on the multi-billion dollar weapon systems, more decision-points have been created. This has stretched out the acquisition cycle and run up system costs.

Way It Is Done Now:

Program managers and contracting officers have their decisions reviewed and questioned at the working level, at the Division level, at the Systems Command level, at the Service Headquarters, at the Assistant Secretary level, at the Service Secretary level, then at the OSD staff (R&D, PA&E, Comptroller), then by the DSAR principals and the Secretary of Defense. It may then be reviewed by the OMB staff and the President before going to the Congress for committee staff questioning and finally Congressional action.

Also, the acquisition people are checked by Service Auditors, the Defense Contract Administration Agency, Defense Contract Audit Agency, Inspectors General, and the General Accounting Office.

Specific Recommendations To Implement Idea:

Make drastic reductions in layers of overhead; i.e., levels of review. The Service Secretaries' staffs should be reduced since they often duplicate review work done by the OSD staff (above) or the Service chief staff (below). The same rationale could be applied to the Materiel command level (AFSC, CNM, and DARCOM).

The Service and OSD audit personnel could be reduced, or the DCAS/DCAA personnel could be reduced. Also, efforts to increase audit functions by the Inspector General's should be stifled.

Advantages:

- . With fewer people in the cycle and less points of coordination, etc., and review, the acquisition process will speed up measurably.
- . Many of the staff to be cut are high-level civilians and officers. This means big reductions in personnel costs.
- . Military could be reassigned, as required, to military billets.

Disadvantages:

- . DoD would be criticized for lack of adequate control of the decision-making process. This criticism would come from some Member of Congress and probably the GAO.
- . As soon as a program ran over its cost estimates, there would be a tendency to recreate levels of review again.
- . Cutting agencies such as DCAA and DCAS might well permit errors in the bookkeeping system, which, though relatively small in comparison to the total cost of a weapon system, would look large in the Press, or in the eyes of the GAO.

Name of Submitter - Wallace H. Robinson, Jr.
President, NSIA

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INDUSTRY INVESTMENT INCENTIVES

IDEA - Encourage and motivate companies to invest in plant and equipment that would increase productivity and reduce acquisition costs.

PROBLEM - Current policy relating to depreciation costs, profit and "one-year" contracts do not provide adequate incentives for companies to invest in capital assets that would increase productivity and reduce acquisition costs, and due consideration is not given to risks involved.

WAY IT IS DONE NOW -

- o CAS 409 requires that depreciation used for contract purposes be based on the historical useful life of capital assets.
- o Profit policy provides an offset to cost of money on facilities capital under CAS 414 and DAR 15-2-5.50. While the profit policy does provide some recognition for facilities capital investment, it is not adequate to encourage specific investments.
- o "One year" contracts have been the rule.
- o Relatively low termination dollar ceilings have been applied.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- o Amend or repeal CAS 409 "depreciation of tangible assets" to recognize replacement depreciation costs or, as an alternative, to be consistent with text policies. As a hedge against inflation, other industrial countries have adopted various methods of accelerated depreciation for their industries. For example, Switzerland allows a 50 to 80 percent depreciation in the first year for new machinery, 100 percent is allowed in the United Kingdom in the first year, 96 percent in Japan in the first year, and 100 percent in Canada in the first two years. Many countries permit replacement depreciation costs for financial statement purposes.
- o Eliminate profit offset under CAS 414. By removing cost of money from contract profit the intent to encourage companies to invest in facilities is frustrated.
- o Permit companies to share in cost reductions resulting from new investment in facilities capital by providing adequate incentives for increased productivity.
- o Expand use of multi-year contracts.
- o Greatly increase termination dollar ceilings.

ADVANTAGES

- o Provides protection to contractors more commensurate with risk.
- o Motivates companies to make significant capital investment to accomplish defense contracts. This would result in increased productivity and acquisition costs reduction over long periods.
- o Great improvement to the defense industrial base by virtue of continuing modernization of facilities, would result.

DISADVANTAGES

- o It may be difficult to determine replacement depreciation costs without incurring appraisal costs. Indices may be used but may not be as accurate.
- o Congress may oppose greater use of multi-year contracting.

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Overoptimistic Forecasts Relating to Costs and Inflation

IDEA - Realistic defense inflation estimates should be used in all phases of the acquisition process so that cost forecasts are more reliable.

PROBLEM - Unrealistic defense inflation projections are primary factors in creating a host of problems for defense contractors:

- A major impact on profits . . . which are inadequate on an inflation adjusted basis.
- Overruns.
- Program instability and quantitative cutbacks.
- Inadequate depreciation cost recognition does not properly consider asset replacement costs.
- Recent studies indicate that actual inflation in the defense industry is running considerably over currently allowable OMB rates.

WAY IT IS DONE NOW - Standard factors based on official budget guidance are used.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- Future inflation rates used for planning should reflect realistic projections from recent experience, including unattributable changes.
- It should be required that forward indices reflect the Defense Industry's own dynamics and not generalized Department of Commerce indices that may not be applicable.
- The impact of inflation on defense industry profits should be considered in establishing profit objectives. CAS 409 should be modified to recognize true depreciation costs on a replacement cost basis.
- Programs should not be projected based upon a current year dollar approach . . . it is not the "real world" and becomes very misleading and undermines public confidence in DoD management.
- Program Stability and Quantity should be maintained without regard to inflation.

ADVANTAGES -

- Will improve program Stability and Quantitative bases in planning for productivity . . . and eliminate "game-playing" with defense programs.
- Will improve investment credibility in Defense industry.
- Will provide the Congress with more reliable data for consideration of programs.
- Will reduce costs and time in the final analysis.

DISADVANTAGES - None

NAME OF SUBMITTER - Wallace H. Robinson, Jr.
President, NSTA

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CORRECTION OF COMPLEXITIES CAUSED BY
PROLIFERATION OF LAWS GOVERNING THE ACQUISITION PROCESS

IDEA - accelerate review and consolidation of statutes prescribing the acquisition process and take advantage of Public Law 96-83 to design a vastly improved defense acquisition process foundation through the Uniform Procurement System (UPS) project underway in OMB.

PROBLEM - It has been estimated by authoritative sources that there are nearly 4000 different statutes dealing with acquisition. Each iteration of the Congressional process adds to the complexity and overmanagement of defense acquisition.

WAY IT IS DONE NOW - Section VII of the DAR is the vehicle for incorporating appropriate laws into contracts. The Defense Acquisition Regulations, DoD Directives and Instructions incorporate and present those not necessarily incorporated in Section VII. Additional requirements are codified in U.S. Code. There is no single source of acquisition law. The UPS project is the only known tool now available to improve the situation.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

Create a compendium of all public laws impacting on the acquisition process. Fully participate (in a leadership role) with OFPP of OMB in the design of the UPS and support OFPP to accelerate the creation by the Congress of a uniform procurement law as a single source of authority.

ADVANTAGES -

- Will simplify entire acquisition management process.
- Will reduce people.
- Will reduce costs.
- Will result in better equipment/systems.

DISADVANTAGES -

- Will create major immediate work load, which will need people of knowledge and experience to accomplish.

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INCREASE EFFECTIVENESS OF THE REQUEST FOR PROPOSAL (RFP) PROCESS

IDEA - In the Request for Proposal (RFP) process, to achieve critical objectives such as increased reliability, better maintainability and reduced manpower requirements, U.S. superiority in technology is not being exploited due to lack of adequate incentives for industry innovation. RFP's have been primarily aimed at pressing the limits of technology in performance and evaluations of proposals are based primarily on performance, cost and schedules, even though current DoD policy (such as DoD Directive 5000.39) requires more consideration and weight to factors such as the above. Also, RFP's are too voluminous and require vastly too much documentation in industry proposals.

WAY IT IS DONE NOW - All appropriate disciplines prepare a compendium of specifications, defining parameters, setting forth how parameters are to be met, and listing all plans, management controls and data requirements pertaining to a future procurement. Months are spent in coordinating and further refining requirements and obtaining authority to negotiate a contract. The result is extensive documentation which requires extensive evaluation against artificial constraints.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

Set forth in RFP's what is needed rather than so much detail as to how to meet the need. Incentivize industry to propose weapons systems which have least initial cost, and least product support and overall life cycle costs; reduced requirements for personnel; ease of maintenance in forward areas, and other clear objectives of DoD.

ADVANTAGES -

- ° Reduced number and sophistication of uniformed personnel.
- ° Incentivises industry to innovate and utilize the U.S. technological superiority.
- ° Maximizes use of standard commercial parts and components.
- ° Reduces shop and repair requirements in forward areas.
- ° Reduces paper work
- ° Reduces number of people in acquisition process.

DISADVANTAGES -

- ° Greater expertise required in evaluation of proposals and definitizing contract.
- ° Requires some latitude in acceptance of less than totally desired performance in exchange for other vital benefits.

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Critical Program:

IDEA - Provide a system outside the "normal" acquisition process for managing programs of overriding impact on the national security of the U.S.

PROBLEM - Management of all programs under standard procedures unnecessarily forces overriding critical programs into "normal" time phases.

WAY IT IS DONE NOW - Highest priority programs receive some benefits within existing systems today, but do not get the "all out" treatment that produced programs such as Polaris and the ICBM in the past.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- . Establish a specially designed acquisition system which would establish specially tailored organizations to manage the very few systems so selected. Examples of programs of recent vintage that may have qualified are the MX, Space Shuttle, Trident or XM-1 tank.
- . Provide for selection of programs meriting such special handling based upon review at the highest levels of Government. . . Joint Chiefs of Staff/Secretary of Defense/Secretary of State/President.
- . Include the Congress in the process where necessary and appropriate.

ADVANTAGES -

- . Provides for fielding of defense systems of the highest criticality at the earliest point in time.
- . Provides means to focus total U. S. technological capabilities on programs chosen as critical to national survival.
- . Provides most economical way to field such critical systems.
- . Assists in focusing interest of the nation on critical national security requirements.

DISADVANTAGES -

- . Will require Presidential level decisions as to programs which so qualify.
- . Lower priority systems may suffer.
- . Will require bypass of normal command/organizational channels.

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In-house vs. Contracting Out Policy

IDEA -- Enforce implementation of OMB Circular A-76 Policy on Contracting Out.

PROBLEM - There has not been steady, continuing implementation of Circular A-76.

WAY IT IS DONE NOW - Policy statements and directions are issued by the Services but no strong organization has been created to assure implementation. Complicated cost analyses are required to be performed, comparing in-house and contractor estimates.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- Assign responsibility and accountability for A-76 implementation at key management locations down through the Services' structures.
- Have new Administration Team and military leaders issue strong statements of support of the policy.
- Simplify the cost analysis systems, procedures and formats.

ADVANTAGES -

- Reduce requirements for DoD in-house manpower.
- Stimulate action through the system.
- Encourage quicker and simplified cost analysis by the DoD.
- Make substantial cost savings by moving more functions to contract.

DISADVANTAGES -

- Stir up government unions to protest.
- Arouse protests from affected members of Congress.
- GAO will criticize any but complicated, lengthy cost analysis.

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President, NSIA

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Technical Data and Financial Data Policy

IDEA - Reduce Volume of Technical and Financial Information Required to be Delivered and Provide Protection for that Delivered

PROBLEM - Currently major program procurements both for the R&D stages and production stages require the delivery of massive amounts of technical and financial information. Contractors lack confidence that the proprietary business technical and financial information will in fact be protected by the government.

WAY IT IS DONE NOW - Contractors are required to identify in advance that data to which the government will have limited rights in accordance with contract clause dealing with rights in technical data. Financial data is not always addressed in the contract. Unsolicited proposals have little protection. Once received by the government, information becomes subject to the Freedom of Information Act. While there are statutory exemptions available to protect the data from disclosure, court decisions, and differences in agency practices indicate that data could be disclosed with little recourse to the submitter of the data.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- Reduce requirements for delivery of financial and technical data to a minimum. Inspection or briefing without providing copies should be the rule rather than the exception.
- Congress, OFPP and DoD should re-examine statutes, regulations, policies and procedures to insure that contractor's rights in financial and technical data are guaranteed protection.

ADVANTAGES -

- Reduce paperwork
- Expedite decision-making
- Encourage greater disclosure from contractors if data provided is given better protection.
- Foster innovation particularly in unsolicited proposals

DISADVANTAGES -

- Government analysis of contractor information could be impeded by lack of copying.

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RD&E BUDGET BALANCE

IDEA - Provide proper balance between RD&E/Procurement/O&M phases. . .as well as the balance between Government in-house and industry R&D.

PROBLEM - Pressures to increase the amount of DoD funds allocated in support of operational requirements invariably lead to reductions in RD&E funding.

- The concern over readiness is causing large increases in O&M and procurement budgets.
- A disproportionate share of government R&D programs assigned to in-house activities will erode the industrial base for defense R&D.

The consequences include the following:

- When more innovation is needed, its source is being reduced.
- There will be fewer starts, which means that correct prioritization will be even more critical than in the past.
- Fewer programs means control over cost growth of each of those programs must be very tight, or else the other programs will suffer all the ills of inadequate funding.

WAY IT IS DONE NOW - Budgeting and funding in this area is executed without regard for the vital need to assure the continuing availability of a viable and active R&D base in this country.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- Government should take steps to ensure a better balance in budget allocations.
- RD&E funding should at least keep pace with the inflation rate.
- DoD must continue to invest a "fair share" of RD&E funds in industry operated R&D activities in order to maintain a balanced government/industry defense R&D capability.
- In-house government R&D capabilities should not be allowed to erode funding availability for industry.

ADVANTAGES -

- Will assure the continuation of an adequate level of R&D funding for in-house and industry R&D activities in support of defense requirements.

DISADVANTAGES -

- Government employees engaged in R&D activities may protest some contract awards to industry.
- Operational commanders will oppose any erosion in readiness and operational support funding.

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USE OF INDUSTRIAL BASE MAINTENANCE CAPABILITY

IDEA - Improve defense practices in carrying out weapons systems life support by more involvement of the industrial base in maintenance of the systems they produce.

PROBLEM - Current policies and practices of the services require too many military personnel and government civilians in support of weapons systems. Complexity of future systems will significantly increase the severity and criticality of the support problems which exist today.

WAY IT IS DONE NOW - Each service plans to take most life cycle weapons maintenance in-house during weapons planning. Once the DSARC III decision is made, life cycle planning virtually stops and industry becomes isolated from the process.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- ° The private sector should provide more services such as depot and field level maintenance except in those cases where it is demonstrated that only the Defense Agencies can perform the task.
- ° Extended contractor repair warranties should be encouraged for life cycle support.
- ° Contractor maintenance options for all levels of support should be utilized on low volume, high complexity systems where economies dictate.

ADVANTAGES -

- ° Provide increased "hot" surge capability for out of production equipments and parts.
- ° Help relieve severe military manpower problems.
- ° Eliminate many redundant DoD jobs.
- ° Lower costs of support.
- ° Shorter equipment turn around time.
- ° Higher quality maintenance.
- ° Lower inventories.
- ° More stable and capable industrial manpower force.

DISADVANTAGES -

- ° Possible local political and union problems closing service industrial facilities.
- ° Opposition from Services.
- ° Possible increased complexity of total support management.

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Full Scale Development (FSD) and Production

IDEA - The full scale development and production of weapons systems can be made more efficient and economical by adoption of better planning, funding, procurement and scheduling practices.

PROBLEM - Procurement planning and associated budgeting often do not match. Timely appropriations to fund programs are lacking. This is caused by poor program planning, which, in turn, results in Congress being improperly informed of current requirements. Industry is also not involved to the extent of being able to actively participate in the defense/congressional budgeting and appropriations process. This results in production delays, work force instability and a large degradation of defense industry productivity.

WAY IT IS DONE NOW - Fiscal planning of procurement and sequential phasing of milestones are limited by law and policy. Industrial response is dictated by specific procurement actions.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- Combined service/industry planning of DSARC II and III.
- FSD/Production concurrency should be allowed.
- Multi-year procurement should be invoked in every case where it would be of benefit to the Government.
- Concurrent spare parts procurement should be implemented.
- Investment carrying charges for advanced procurement of materiel should be allowed to reduce both costs and lead times.
- OSD should recreate a high level office for coordination and assessment of production resources.

ADVANTAGES -

- Lower product costs in materiel acquisition.
- Shorter development and production lead times.
- Improved FSD/Production Management.
- Smoother Production cycle/lower costs.
- Labor force - stability

DISADVANTAGES -

- Possible higher risk of design problems in production.
- Possible higher financial risk.

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RAN/D&F for Research and Development

IDEA - Request for authority to negotiate (RAN) and determination and findings (D&F) for procurement of Research and Development procedures need to be streamlined.

PROBLEM - Current statutes and regulations prescribe "formal advertising" as the basic method for Federal procurement. Procurements not accomplished by formal advertising is considered procurement by "negotiation" regardless of how much competition is involved. While statutes and regulations recognize exceptions to permit negotiations, determinations and findings must be made to permit negotiations. Many times these determinations and findings must be made at the secretarial level thereby introducing substantial delays in the procurement process.

WAY IT IS DONE NOW - Determinations and findings are prepared at the lowest level of the procurement organizations but must be forwarded through many layers of review and approval prior to execution at the highest levels. This inordinate amount of staffing and paper processing delays the process.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

Statutes should be amended recognizing negotiation as procurement method equal in status to formal advertising with the formal D&F process. Short of this ultimate solution, authority to make D&F's should be delegated to the lowest level.

ADVANTAGES -

- Eliminate unnecessary delays in the procurement process.
- Make the process more responsive to the needs of the agencies.

DISADVANTAGES -

- Reduced visibility and control at upper levels.

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Front-end Funding for Systems Acquisitions

IDEA - Insure provision of adequate front-end funding for system acquisitions.

PROBLEM - Funding for front-end is inadequate.

WAY IT IS DONE NOW - Funds for equipment development programs are used primarily for tasks that affect functional attributes and only minimally provide for tasks affecting Quality, Reliability, Maintainability, Test Equipment, etc. As equipment design progresses the attainment of functional attributes absorbs more funds than allocated and these funds are typically extracted from Quality, Reliability, Maintainability, etc., tasks to the extent that the dollars remaining for these elements are seriously reduced and inadequate.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA - Congress must permit and DoD must use multi-year procurement techniques to fund the "ilities" and prohibit the transfer of such funds during the design phase.

ADVANTAGES - Provision of adequate front-end funding will reduce O&M expenditures, the highest of all life-cycle costs.

DISADVANTAGES -

- ° Could add to the development time for a new system.
- ° Will result in more front-end funding which could be objectionable.

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Intelligence/Technical Information

IDEA - Early Transfer of Threat, Organization, Tactics and Technology Information to Industry.

PROBLEM - There is a need to obtain government thinking and information early in the acquisition process. Intelligence and technical information should be made available to all competitors involved in exploring alternative system design concepts. Adequate threat information and existing applicable studies which detail the current and projected capabilities and limitation of U.S. and potential enemy weapons are not made available sufficiently early in the program.

Typical data needed includes:

- o Threat information.
- o Current and Projected Enemy Capabilities and Limitations.
- o Current and Projected U.S. Capabilities and Limitations.
- o Government-owned Non-proprietary Information.
- o Government Lab Technical Developments.
- o Licensing of Proprietary Information.

WAY IT IS DONE NOW -

Dissemination and timeliness of intelligence information to Industry varies widely from program to program .. and in many cases the information is out-of-date and incomplete.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- o DoD should implement an effective procedure, and DoD should conduct periodic industry briefings on the intelligence information above and make adequate documentation available.
- o The Program Management Office (PMO) should assign one person as the point of contact responsible for communicating, making available and providing equal access to all appropriate technical and intelligence information to all competitors.
- o To assist the PMO, establish a DoD service-wide library function that would relate technology based reports to mission element areas.

ADVANTAGES -

- o Improve the capability of Industry to propose effective systems.
- o Improve the ability of Industry to offer feedback information into the U.S. Intelligence community.
- o Creates a more knowledgeable and valuable design community in Industry, that can be more responsive to defense needs.
- o Can contribute to the savings of time and money.

DISADVANTAGES - Need to maintain adequate security may require very tight controls on some information.

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OASD Quality Organization - Changes Needed to Improve Productivity

IDEA - Increase management emphasis on quality and reliability policy.

PROBLEM - Productivity has suffered from a lack of management direction regarding the importance and methods to achieve quality in design and manufacturing. The result has been excessive engineering changes, low manufacturing yields and high operation and support costs.

WAY IT IS DONE NOW - Quality and Reliability Policy is generated out of a one man office in OASD. The organization level makes it difficult to coordinate and exercise leadership over the quality organizations in the defense components. Even though the military services have quality organizations that function effectively, often their individual thrusts result in confusion on the part of OASD who tries to implement conflicting programs, and of defense contractors performing for more than one military service.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- o Establish an Office of Quality and Reliability Policy at the Director level within OASD.
- o Increase the authority and stature of the DoD Quality Council.

ADVANTAGES -

- o Reduce cost of acquisition.
- o Reduce operations and support costs.
- o Increase military readiness.

DISADVANTAGES -

- o Would increase the staff in OASD, and require establishment of an SES position.
- o May limit the freedom of action of the military services.

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PRE-PLANNING PRODUCT IMPROVEMENT

IDEA - Establish a "cradle to grave" responsibility for planned modernization during the post production phase.

PROBLEM - The first line life of all major weapons systems has lengthened appreciably in recent years. While the vehicles for these major systems (aircraft, ships, tanks) may possibly remain viable platforms over these extended periods, the major subsystems involved often do not. There exists therefore an increasingly pressing need for replacement or refurbishment of these major subsystems on a planned basis rather than on a reactive (threat) basis.

WAY IT IS DONE NOW - There is now a split in organizational and fiscal responsibility between phases - thru production and the O&M phase. There is no planning now in the O&M phase that allows for major R&D opportunities.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- ° Strengthen the total acquisition (development/production/support) of major system top level management and guidance, which should assume "cradle to grave" responsibility for planned system modernization, including the corollary R&D time cycles, in the post-production phases.
- ° The institution of an additional review following a decision to procure is recommended. In addition to better planning for support phase, this step would recognize the extended life of major weapons systems and would assure that the following steps were adequately provided for; 1) Provide funds and planning for a planned modification program after the system is placed into operational use. These modifications would be limited to changes to those subsystems that have shown the greatest need and/or the highest payoff potential against a given threat; 2) Provide planning for a major weapon system updating perhaps at (or near) the systems real mid-life point. Support costs, technology improvements, threat changes/operational needs would be the drivers for this change package. The planning should back off from the anticipated change data and allow adequate time for competitive R&D, FSED, test, and production of the new hardware to meet retrofit window in time.

ADVANTAGES -

- ° Reduces overall cost of military requirements.
- ° Maximizes utility of original force-structure investment over an extended period of time.
- ° Provides a valid alternative to procurement of a totally new system, possibly providing an earlier "IOC" at lower cost.
- ° Capitalizes on an operationally "debugged" fielded system.

DISADVANTAGES - Requires an additional review step and will require early commitment to fund R&D in the O&M phase.

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Federal Patent Policy

IDEA - Improve and Unify Federal Patent Policy

PROBLEM - Title and licensing provisions of contracts provide little incentive for innovation in contract performance or commercialization of inventions.

WAY IT IS DONE NOW - We now have different policies for large and small business. Policy for large business generally favors title to inventions in the government with the reverse true for small business. Licenses retained by business are of little commercial value. Privately developed patent position may be ignored during the acquisition cycle.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

A consistent patent policy should be adopted which would promote innovation by giving to contractors all of the economic and commercial incentives of the patent system. Title should normally rest in the contractor with a license only to the government for governmental use. The existence of a prior patent position should be recognized in the solicitation phase of acquisition.

ADVANTAGES -

- Encourage innovation
- Encourage commercial development of inventions

DISADVANTAGES -

Political opposition based on feeling that commercial position is being improved by government funds

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Industry Developed System Concepts

IDEA - Establish Acquisition Procedure for Industry Developed Concepts.

PROBLEM -

- . Many potentially worthy concepts or innovations from industry are not adequately considered in the current acquisition process.
- . There is no procedure or office to handle industry-developed concepts or innovations, beyond current systems program offices.

WAY IT IS DONE NOW -

There are now four major drivers to initiate the acquisition process:

Threat/Physical Obsolescence/Technological Opportunity/Major Cost Savings.

While the first two are obvious and will generate internal DoD acquisitions; the last two, "Technological Opportunity" and "Major Cost Savings" are not too well understood, and Industry concepts that may arise in an independent manner are difficult to get into the acquisition stream for evaluation. Current systems program offices are dedicated toward single purpose accomplishment, and DARPA as presently constituted and funded is not a satisfactory vehicle for handling such initiatives.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- . Create an office in each of the services and OSD to accept and review such proposals; generate requirements where warranted; establish adequate funding for early activities; arrange for a permanent home for full exploitation of concept or development as required.
- . Encourage a better balance or priority of alternate solutions between "New Initiatives" and "Refurbishment"; enabling "a step ahead" of threat where really imperative, rather than simple reaction to a change in threat after the fact.

ADVANTAGES -

- . Opens the acquisition process to many potentially valuable and innovative concepts for defense, further taking advantage of U. S. technological superiority.
- . May make major cost saving ideas available to the DoD.
- . May allow for potentially valuable changes in concepts of military operations, or multiple service usage.

DISTAVANTAGES - Creates new office in services and OSD, which will require additional personnel.

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Electronic Component Parts

IDEA - To insure the availability of high quality electronic component parts.

PROBLEM - The manufacturing of parts is increasingly being performed off-shore which increases -

- o The difficulty of supplier control.
- o The risk of disruption of supply due to international tensions.
- o Qualified Product List (QPL) parts are not being adequately controlled during manufacture by either the government or industrial users.

WAY IT IS DONE NOW - The free enterprise (commercial) system lets components be manufactured any where in the world that results in an acceptable product at a competitive price. To standardize parts the DoD established the QPL system - which requires a manufacturer to make an item that can pass a government qualification test. No follow-on surveillance on the part of the government is maintained.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- o The government must develop a program to insure continued domestic manufacture of component parts - especially highly complex integrated circuits which require state-of-the-art manufacturing processes.
- o The government and industry must determine the most cost effective collective method to insure the integrity of the QPL/JAN-branded system.

ADVANTAGES -

- o Will insure availability of electronic parts.
- o Will maintain domestic manufacturing capability.
- o Will reduce the cost of supplier control and insure compliance to the requirements of the QPL/JAN branded system.

DISADVANTAGES -

- o Could drive the cost of electrical components up.
- o Could restrict competition and development.
- o Changes in the QPL system could result in higher cost to the government and the need for additional people.

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Cost Estimating and Related Subjects

IDEA - Improvement of cost estimating and its relation to contract award and type of contract.

PROBLEM - THE WAY IT IS DONE NOW -

- o System Development contracts (hardware) are still being awarded on a fixed price basis, that clearly should be cost plus.
- o Too often contracts are awarded to low bidder even though DoD in-house estimates reflect the unrealism of such a low bid.
- o The result of these actions is usually reflected in programs that overrun and that fail to meet schedule; also severe financial impact is often experienced by the industrial organization involved in such programs.
- o Breakdown of industrial estimates into greater and greater detail that is really meaningless.
- o Still too much of "best and final" offer pressures on industry.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDFAS -

- o System Development contracts (hardware) should be required to be awarded on a cost plus basis, unless it can be demonstrated as appropriate to do otherwise.
- o Bids that are clearly unrealistic relative to work contemplated should be critically reviewed with industrial organization(s) involved ... and in the final analysis should be awarded to the most realistic bid. No best and final offers should be needed.
- o Estimating detail now required by acquisition system should be significantly reduced and all unnecessary paper work eliminated and each of the Services, as well as OSD, needs to upgrade the stature and scope of activity within its cost analysis group(s).

ADVANTAGES -

- o Will provide a more realistic basis for many programs; reduce total elapsed time and provide a better system.
- o Will allow proper concentration by contractor as well as government on technical and related aspects of program ... as opposed to over concentration on costs due to unrealistic estimates, and will reduce or eliminate many of the controversial "overruns", that receive so much notoriety.
- o Unnecessary breakdown of estimates will eliminate much paper work ... without adversely affecting anything.

DISADVANTAGES -

- o Will force government to be more analytical and discerning ... in not necessarily awarding job to low bidder.

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Quality and Reliability Specifications

IDEA - Standardize quality and reliability specifications.

PROBLEM - The number of military specifications on the subjects of reliability, quality, maintainability and product assurance has been proliferating. The result has been increased contractor development and manufacturing costs without a commensurate improvement in product quality.

WAY IT IS DONE NOW - DoD specifications normally are developed, coordinated and published under the Defense Standardization Program. NATO QA documents are developed, coordinated and published under a NATO subcommittee then ratified by each government. There appears to be no coordination between the two systems, nor any attempt to consolidate specifications.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- o OASD should review existing and proposed NATO and domestic specifications for the purpose of standardization and simplification.
- o Special military attention should be given to reducing the tendency on the part of the services to generate new specifications to satisfy a perceived need on a new program.

ADVANTAGES -

- o Reduced acquisition and support costs.
- o Simplification of contract negotiations.
- o Reduction of contractor policies and procedures necessary to satisfy unique contract requirements.

DISADVANTAGES -

- o Possible failure to satisfy a justifiable special military service requirement.
- o Joint DOD/NATO documents will be difficult to change.

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Computer Software Quality Assurance

IDEA - Improve the Quality of Computer Software.

PROBLEM -

- Existing specifications are too restrictive when applied to small software projects.
- Certain standards impose methodologies that can limit software engineering initiative, which may result in the development of less than optimum systems. (Cost ineffective and fails to take advantage of US technology)
- Limitations in availability of qualified personnel reduce the effectiveness of tailoring and delay approval by the MIL Service.

WAY IT IS DONE NOW - There is basically one software system specification that is used by the military services. That is applied to all programs. Interpretation and evaluation is done by both the contracting and contract administration organizations. The lack of training and experience within government circles tends to limit tailoring and limit software engineering initiative.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- Initiate a procedure for government to certify defense contractors' self-developed and documented standards appropriate to their product line and accept them for weapons systems acquisitions.
- Government and industry join in the study, development and implementation of programs to train personnel in the performance of software quality assurance duties.

ADVANTAGES -

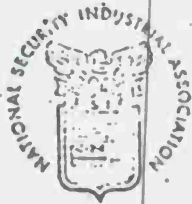
- Saves time in the approval process.
- Better quality and more reliable software.
- Eliminates outmoded software techniques.
- Reduces demand on software engineering resources.

DISADVANTAGES -

- Will multiply the number of different software programs.
- Could result in added costs when evaluators drive a software program back to basics.
- May result in added training cost on the part of the military user.

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17 March 1981

Dr. Paul J. Berenson
Deputy Assistant to the Secretary of Defense (AE)
(Assessment), and Chairman, Acquisition Process
Working Group
Office of the Secretary of Defense
Room 3E1081
The Pentagon
Washington, D.C. 20301

Dear Dr. Berenson:

At the request of Mr. C. W. George, forwarded herewith is the first increment of suggestions on "How to Improve the Acquisition Process". Follow-on increments will be forwarded as developed.

The overriding problems with the acquisition process today relate generally and directly to overmanagement which has developed throughout the entire process, to lack of industry investment incentive, to unrealistic and overoptimistic forecasts relating to costs and inflation, and to the proliferation of laws and regulations relating to the process, including using the acquisition process in social reform.

The ideas presented here and in forthcoming increments nearly all relate to these fundamental problem areas, and represent the views of the National Security Industrial Association (NSIA). The material was prepared with the assistance of both the Aerospace Industries Association (AIA) and Electronic Industries Association (EIA). Represented are prime contractors and subcontractors for defense, both large and small; which represent various technologies, i.e., aerospace, electronics and vehicles, produce domestic and multi-national defense and commercial products; and serve the total Department of Defense.

We are pleased to have this opportunity to provide ideas and recommendations since we consider the addressed subject to be critical and timely. Each idea is presented on the one page format prescribed. Additional material on each idea is available if needed.

We would appreciate the further opportunity to comment on the total package at the appropriate time.

Please feel free to call me if any further clarification is desired.

Sincerely,

Wallace H. Robinson, Jr.
Wallace H. Robinson, Jr.
President

WHR/AFB/lp
Attachments (7)

Procurement Law

IDEA - There are too many laws governing Federal government procurement & the basic laws are so old as to be faulty in our modern world.

PROBLEM - Currently effective basic laws governing Federal government procurement policies and practices are dated 1947 and 1949. Four thousand other statutes impact on the process. Obviously this imposes a tremendous burden on all who deal in the business of doing business with the government. In far too many instances this results not only in increased cost, but diversion of effort away from the actual performance of procurement activities.

WAY IT IS DONE NOW - The imposition of so many laws forces manning levels within DoD far exceeding those necessary to conduct the business of procurement. In addition they have encouraged responsible individuals to become "Box Fillers"; that is, it is more important to fill in the boxes on the many forms to ensure compliance with all the laws & regulations than it is to accomplish the task of acquiring goods and services.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

Take advantage of the opportunity presented by P.L. 96-83 to develop and submit to Congress in Cooperation with the OFPP a Uniform Procurement System and new supporting legislation to correct the above problem and modernize procurement practices.

ADVANTAGES - Success in this effort would modernize & upgrade the procurement process and reduce the cost of conducting the Defense Dept's. business.

DISADVANTAGES - Procurement personnel would be required to upgrade their qualifications and assure more responsibility for accomplishing the tasks involved in the acquisition of goods and services.

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Weapons Systems T&E

DEA - Significantly reduce the time required in Weapon System T&E Phases.

PROBLEM -

- The users concept of testing requirements are not included early in the planning cycle and therefore requires additional testing in the cycle.
- There is excessive duplication of T&E between contractor and the services. There is overlap in time of testing also.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- The implementing command should include more operational test concepts in planning tests early in the acquisition cycle.
- Contractor should do more operational oriented testing prior to services testing.
- Identify and fix deficiencies during early contractor testing.

ADVANTAGES -

- Will reduce total costs.
- Will reduce total elapsed time.
- Will provide a more acceptable weapon system to the user command.
- Will reduce sensational press and Congressional criticism.

DISADVANTAGES -

- Will force user command to get involved early. This could delay the early part of the acquisition cycle by forcing decisions by the two commands early.
- Will require earlier funding for deficiencies fixes.

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Improved Productivity

IDEA - Modification or rescission of socio-economic statutory requirements and executive directives.

PROBLEM - Socio-economic regulatory imposition adds considerably to the cost of national defense. Some estimate the cost on some of the programs to be as high as 20 percent.

WAY IT IS DONE NOW - Current imposition of P.L. 95-507 and OFPP Letter 80-1 establishes quotas and designates the SBA as a contracting agency for the Defense Department. There are about forty other statutes which increase this burden.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- Persuade Congress to revise, amend or rescind current legislation.
- Establish a Task Group to work with the Executive Branch and industry to accomplish the above.

ADVANTAGES - Improve the economy of the Defense Procurement.

DISADVANTAGES - Mainly political, i.e., Congress has imposed these statutes, now supported by regulations for the purpose of solving social economic problems regardless of impact on efficient and economical procurement.

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Surveillance Requirements

IDEA - Waiver of Unnecessary Surveillance Requirements.

PROBLEM - Recordkeeping, reporting, audit & surveillance requirements are unrealistic & demand support attention which is uneconomical & counter-productive.

WAY IT IS DONE NOW - Government personnel spend inordinate time checking compliance with many unnecessary requirements. Company employees tied down by these activities are not contributing to productivity.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

Minimize the imposition of surveillance requirements to a level which ensures delivery of desired products without preempting the authority and responsibility of industry to efficiently perform on their contracts.

ADVANTAGES - Reduction of surveillance would reduce the cost of contract performance and at the same time emphasize the proper assignment of responsibilities and authority to both government and industry personnel.

DISADVANTAGES - Would reduce visibility of government employees into the day-to-day operation of the responsible contractors.

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Post Production Support

IDEA - Improve the DoD planning process to formally include post production support.

PROBLEM - Current DoD/Service Acquisition milestone planning stops at DSARC III. Much of the total life cycle costs are expended after this decision. Effective service/industry planning and involvement are absent.

WAY IT IS DONE NOW - DSARC O through III milestone plans are thorough and precise. They include planning for operational support in a projective manner. While operational support occurs, the plans are outdated, many missions change, weapons improvements are implemented. The support phase lacks a sound planning and management structure.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEA -

- A milestone IV - "post production support".
- Industry participation should be mandatory.
- The planning process should be a continuous one throughout operational life.

ADVANTAGES -

- Improved spare parts availability and lower costs.
- Retention of industry "knowhow" after production.
- Improved surge/mobilization planning.
- Weapons/maintenance improvements increase reliability and reduce costs.
- Better service/industry cooperation in weapon management.
- Control of diminishing manufacturing source problem.

DISADVANTAGES -

- None

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Inflation Factors

- Realistic defense inflation estimates are required in all phases of acquisition process.

PROBLEMS -

Unrealistic defense inflation projections are primary factors in creating a host of problems for defense contractors:

- o A major impact on profits ... which are inadequate on an inflation adjusted basis.
- o Overruns.
- o Program instability and quantitative cutbacks.
- o Inadequate depreciation cost recognition does not properly consider asset replacement costs.
- o Recent studies indicate that actual inflation in the defense industry is running considerably over currently allowable OMB rates.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- o Future inflation rates used for planning should reflect realistic projections from recent experience, including unattributable changes.
- o It should be required that forward indices reflect the Defense Industry's own dynamics and not generalized Department of Commerce indices that may not be applicable.
- o The impact of inflation on defense industry profits should be considered in establishing profit objectives. CAS 409 should be modified to recognize true depreciation costs on a replacement cost basis.
- o Programs should not be projected based upon a current year dollar approach ... it is not the "real world" and becomes very misleading and undermines public confidence in DoD management.
- o Program Stability and Quantity should be maintained without regard to inflation.

ADVANTAGES -

- o Will improve program Stability and Quantitative bases in planning for productivity ... and eliminate "game-playing" with defense programs.
- o Will improve investment credibility in Defense industry.
- o Will reduce costs and time in the final analysis.

DISADVANTAGES - None

NAME OF SUBMITTER - Wallace H. Robinson, Jr.
President, NSIA

OFFICE AND TELEPHONE NUMBER - (202) 393-3620

Adequate Funding - RDT&E

IDEA - Provide adequate funding for concept formulation, demonstration and validation phases.

PROBLEM -

These early phases were established to provide information on alternate solutions to perceived military needs so that knowledgeable decisions could be made to carry the most promising solutions into the next steps in the process. The Department of Defense requires, and industry must furnish, studies and analyses in sufficient detail and tested hardware so that the Department of Defense can properly make critical decisions between alternate solutions. When these phases of the process are not adequately funded, several results occur that are deleterious to the best interests of the government.

- o Contractors divert corporate resources to complement the limited government funds, thereby reducing the pursuit of advancing fundamental technology and the investment in new facilities upon which the military strength of this nation is based.
- o Companies may not elect to compromise other corporate programs by such diversion of resources with the consequence that the Department of Defense will be basing its decisions on an inadequate data base.
- o Companies that have potentially unique concepts but do not have the internal resources available to complement inadequate government funding may not complete or be able to present their unique solution.

SPECIFIC RECOMMENDATIONS TO IMPLEMENT IDEAS -

- o Industry recommends that explicit DoD guidance regarding the funding of front-end activities, and that the allocation and approval of adequate funding by Congress be vigorously pursued by DoD.
- o Guidelines with respect to limitation of competition need to be established. When available R&D money is short, it should not be spread among too many competitors. Strong competition is needed; but too much leads to severe underfunding for each competitor.

ADVANTAGES -

- o Will eliminate underfunding (and its corollary problems) during the most important phases of new programs.
- o Will allow for more potentially unique concepts.
- o Will improve the ability of industry to provide more investment into producibility and or expansion of technology base.

DISADVANTAGES - None

NAME OF SUBMITTER - Wallace H. Robinson, Jr.
President, NSIA

OFFICE AND TELEPHONE NUMBER - (202) 393-3620

TEAM A

REDUCE ACQUISITION COST

Defense Acquisition Process
Working Group

A-i

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Recommendations to Reduce Acquisition Cost

Items Solely Within DoD Control (High Pay Off)

o Increased stability in the acquisition process

Program instability is inherently costly. The 50 major programs covered by the December 31, 1980 Selected Acquisition Reports (SARs) reflected total cost growth of 129% over the milestone II estimates. Reasons for growth are economic (27%), quantity changes (26%), estimating changes (18%), schedule changes (15%) support changes (7%), engineering changes (5%), and other changes (2%). 46% of all growth is due to quantity and schedule changes. Of the 47 programs, 19 have had quantity increases, 20 quantity decreases, and 8 are unchanged. Schedule changes have resulted in reduced costs on 4 programs, and increased costs on 38. The most common cause for these changes is financial. We reduce quantities and stretch schedules because current year budget ceilings do not permit funding of all the things we want.

Recommendation: Once programs are established strive to minimize changes by fully funding major systems.

Advantages: Reduces costs by stabilizing schedules, quantities, and production rates. Will enhance the ability to plan force modernizations. This recommendation is compatible with all proposed "Acquisition Process" alternatives.

Disadvantages: Budget flexibility will be reduced.

Action Required: SecDef, OSD and Services should strive to fully fund in the FYDP and Extended Planning Annex (EPA), the R&D and procurement of major systems at levels necessary to protect the acquisition schedule established at the time the program quantities are set, currently Milestone II. Limit to funding constraints (except when Congressionally mandated). In general, only changes which are directed by changed requirements or development problems should be made. Terminate lowest priority efforts to enable sufficient funds to support the above proposed acquisition strategy.

(A-15)

Approve: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

- o Use off-the-shelf items wherever possible and defer high risk elements to preplanned product improvements.

Frequently a program will proceed into Full Scale Development with subsystems, or elements with significantly higher risk than the majority of other areas in the systems. This creates schedule delays, cost growth technical under-runs or program cancellations only because of the one or two high risk areas. System performance and/or reliability requirements are established with known high risk areas. We assume an equal level of success and later find that we cannot accomplish original requirements because of the high risk area. The entire program is stalled awaiting the achievement of the technology.

Recommendation: Discipline weapons requirements and eliminate gold-plating by using common items and a system of preplanned product improvements.

Advantages: Reduces overall development cost. Shortens demonstration & development of practical systems. More confident cost estimates.

Disadvantages: Increased budgeted costs for high risk subsystems. Some lowered performance or reliability. May introduce obsolescent items.

Action Required: Whenever possible, defer high risk elements to preplanned product improvements. Use off-the-shelf items where lower reliability or performance are acceptable as an interim solution.

(A-14)

Approve: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

o Provide realistic weapons system budgets.

Intentionally low initial estimates are a prime contributor to cost growth. Programs are sometimes understated because we constrain programs to budgets and force contractors to absorb or underwrite costs temporarily. We allow contractors to drive prices below expected costs as a means of buying in.

Recommendation: Budget realistically such that both the government and industry do not constrain programs to fit artificially low estimates.

Advantages: More realistic budgets based on total expected costs.

Action Required: Budget to most likely costs instead of target costs.

(A-6)

Approve: _____

Idea Needs More Development: _____

I Need More Information: _____

Disapprove: _____

o Improve the Source Selection Process

Some DoD competitively selected contractors have performed poorly. Source selection criteria do not sufficiently take into account past performance or plans for future phases of a program. Credibility and realism of proposals are not challenged.

Recommendation: Improve the source selection process to place added emphasis on past performance, schedule realism, facilitization plans and cost credibility. De-emphasize the importance of lowest proposed cost. Devote more attention to evaluating contractors' performance at the time of contract completion. Establish quality ratings. Ensure these past performance ratings are available for use by source selection personnel.

Advantages: Eliminate poor performers. Eliminate proposals that are unrealistically priced thereby reducing the risk of buy-ins.

Disadvantages: May limit competition.

Action Required: Modify the source selection directive, DoDD 4105.62, to emphasize the objectives stated above. (A-21)

Approve: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

- o Reduce acquisition and total life cycle costs through development and use of standard operational and support systems.

Individual Service requirements result in redundant development of avionics, subsystems, and support equipment. Services are predisposed to specifying requirements for subsystems (especially aircraft subsystems) that eliminate the possibility for multi-system and joint Service use. New avionics and support systems are developed that are peculiar, yet redundant in many capabilities. Many opportunities exist to consolidate requirements and develop single, standard items.

Recommendation: Discipline weapons performance and technical requirements to eliminate gold-plating by using standard support and operational systems.

Advantages: Acquisition cost reduction. Earlier deployment of IOC. Better accommodation to threat. Reduced risk. Program stability. Enhanced Supportability. Reduction in operating costs.

Disadvantages: Inter-Service cooperation required. (Possible) delay in achieving enhanced capability. Retrofit requires pre-planning to minimize cost. More front end time for review and coordination.

Action Required: Require added consideration of the development and cross-service use of standard operational and support systems by:

- a. Conducting independent cost, schedule, and performance trade-off studies comparing the use of standardized or existing systems in lieu of new subsystems or new support equipment.
- b. Cross service standardization of software development guides, test diagnostics, test equipment interface requirements, and modular concepts.

(A-11)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

- o Better forecasting of business base conditions at major defense plants to generate more optimal man loading schedules.

The business base at key defense plants is not adequately considered in DoD program development. Cross Service impacts and the effects of non-DoD work distort business base projections and seriously increase overhead costs. This has caused large cost growth for certain weapons systems (F-18, Light Airborne Multi-purpose System (LAMPS III)). Too little consideration given to this factor in planning and decision-making.

Recommendation: The Services will increase effort to coordinate programming information that affects other Service overhead costs at given defense plants. (This probably involves no more than ten facilities in the U.S.) Information will be provided that allows each Service to update its business projections.

Advantages: Better cost estimates and lower cost to the government.
Provides realistic costs.

Action Required: The OSD Cost Analysis Improvement Group (CAIG) will coordinate this data exchange and identify those plants where a requirement for such information exists. The Services will attempt to plan, program and budget so as to reduce overhead costs to the Government at these joint use plants.

(A-5)

Approve: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

o Evaluate, quantify and plan for risk.

During the evaluation of programs or contractor proposals, risk is normally evaluated qualitatively while budgets and schedules are developed on an optimistic assumption that the contractor proposals and program estimates/schedules are realistic. The evaluation of risk is rarely quantified, budgeted or planned in the schedule resulting in "surprises" in cost growth or schedule slippage stemming from known high risk areas.

Recommendation: Increase DoD efforts to evaluate and quantify risk during all phases of planning and execution.

Advantages: Reduces unexpected cost growth resulting in unfunded requirements and overruns. Stabilizes the budget. Provides better operational and support planning schedules. Provides a measuring stick for success or failure of a program.

Disadvantages: Higher initial program estimates would result in fewer programs within a stated total obligation authority. Additional program management control required.

Action Required: Establish policy that program estimates and schedules should account for "most likely" costs and time. Ensure Services baseline the program's technical, cost and schedule with sufficient margin for error (i.e. include management reserve and schedule reserve for reasonable technical difficulty). Provide for negotiation of profit levels commensurate with contractor investment and risk.

(A-7)

Approve: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

- o Associate production profit to attaining or bettering the production cost goal during contract.

Design to Cost (DTC) fee awards are made as a result of paper analysis. There is little or no tie to actual costs in production. DTC incentive fees and awards are payable during and at the conclusion of FSED. Award is based on the forecasted average cost for the production quantity.

Recommendation: Provide appropriate incentives to industry by associating fee awards to actual costs achieved during the early production runs.

Advantages: Ties award to "real" achievement. Makes DTC meaningful. Closes credibility gap.

Disadvantages: Changes in program (rates, quantity, inflation etc.) complicate analysis of results. Longer time between DTC effort and award payment.

Action Required: Develop contract terms and procedures to provide for the payment of Design to Cost (DTC) awards and incentives based upon costs actually achieved during early production runs. Base payments on demonstration that initial costs are on track with DTC goal for total forecasted production.

(A-32)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

- o Emphasize maximum innovation and delegation of authority, responsibility and accountability within the DoD.

During recent years there has been a growing tendency to centralize the decision process within the DoD. This practice has multiplied throughout the numerous levels of authority in each of the Services. This practice has, in and of itself, lengthened the acquisition cycle; created cost increases due to delays in decisions; confused the authority, responsibility and accountability of the designated Program Manager; and has stultified innovation which could produce program improvements leading to cost savings. Matters concerning program decisions, procurement release, business strategy, funding decisions, requirements approvals and operating and support decisions should be delegated to the maximum extent feasible to the Program Manager.

Recommendation: Increase program managers authority to enhance innovative and efficient approaches to solving development and production problems.

Advantages: Reduced system cost and shorter acquisition cycles resulting from the introduction of previously restricted innovation. More efficient reporting by Program Managers. More visible, responsive and streamlined program management.

Disadvantages: Some risk of losing a thorough functional analysis of the system because the elimination of intermediate reviews. Potential wasted effort if the innovation concept is eventually not accepted.

Action Required: Issue an OSD policy statement reemphasizing the requirement to achieve maximum delegation of responsibility, authority and accountability within each Service. The policy statement should encourage each Program Manager to seek innovative approaches or seek changes to regulations which prevent maximum efficiency in program execution. Establish direct communication channels between program manager and acquisition commander or Service acquisition executives.

(A-36)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

o Incorporate the use of management reserve.

The majority of DoD systems are subject to uncertainties which cannot be captured in the program's cost estimate. When these uncertainties occur, funding adjustments are required or the system must be delayed until the formal funding process can respond with additional dollars. The Army has initiated a management reserve concept for RDT&E programs. This concept is explained in the information paper in the detailed back-up. The Army is studying the RDT&E concept for application to procurement. The other Services do not have a similar concept.

Recommendation: Expand the use of management reserve by encouraging all Services to use a reserve where appropriate.

Advantages: Cost estimates will be more realistic over time.
Programs will be more fully funded and overall program funding will be more stable.

Disadvantages: Can encourage a more money treatment of problems that might be solved in other ways (self-fulfilling prophecy).

Action Required: Provide flexibility to each Service to determine:

- a. Which programs would use a management reserve.
- b. The level at which management reserve funds would be held.
- c. The allocation of unused management reserves.
- d. The duration of the high risk initial production period.
- e. A uniform methodology appropriate to each Service.

(A-33)

Approve: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

II. Items Not Within SecDef Control (High Pay Off)

o Gain acceptance for the use of management reserve.

In order to properly utilize the concept of management reserve, Congress and OMB must be supportive.

Recommendation: Budget for the dollar total of the baseline estimate plus management reserve. Management reserve funds are not to be used for changes in program scope.

Action Required: Gain Congressional and OMB acceptance for the military departments to include a management reserve concept for RDT&E and for initial production of weapons and materiel systems. (A-33)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

- o Seek relief of DoD participation in various environmental/social programs related to acquisition.

Many laws and/or executive orders require DoD to participate in environmental/social programs for the furtherance of certain stated objectives. Participation in these programs can adversely effect acquisition/construction schedules and/or costs of DoD programs. Annual guidance regarding percentage of contract awards and dollar amounts is given. Targets are established for minority small businesses and labor area set-asides. Certain laws (i.e., PL 95-507) require prime contractors to use minority, small business or disadvantaged subcontractors. We require prime contractors have Affirmative Action and Equal Opportunity Plans and monitor subcontractor implementation. We enforce environmental considerations in contracts. The Bacon-Davis and Service Contract Acts require our contractors to pay artificially high labor rates. OPFF letter 80-1 establishes the Small Business Association as a contracting agency for DoD. More than 64 statutory requirements have been identified by OFPP and the GAO. NSIA estimates that participation in these programs can increase the cost of some of our contracts by twenty percent.

Recommendation: Reduce required paperwork and administrative costs by seeking relief of DoD participation in the many environmental/social programs.

Advantages: Less cost to contractors in doing business with the government. Cheaper DoD program costs. Less government personnel to police these activities. Simpler contracting procedures. Faster contract awards.

Disadvantages: May conflict with the objectives of other departments and agencies.

Action Required: Obtain Congressional and Presidential approval to reduce the number of environmental/social programs that are enforced through government contracts. Any reduction of these restrictions will be politically sensitive and require coordination with the agencies within the Administration and Congress.

(A-19)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

- o Establish a revolving fund to generate money within DoD to modernize government-owned plant and equipment.

Aging and inefficient government-owned plants and equipment are used for the manufacture of Defense materiel. The average age of DoD-owned production equipment is more than 25 years. Over the past 10 years, very little modernization of government-owned capital assets was done because of the lack of available funding to improve the industrial base. Dollars to modernize the DoD-owned segment of the industrial base must compete with the budgets for weapons systems acquisitions, etc. Rental payments for commercial use of DoD-owned plant and receipts from the sale of DoD plant equipment and excess materiel go to the miscellaneous receipts of the General Treasury.

Recommendation: Increase productivity by establishing a revolving fund to provide capital for modernizing DoD plant equipment. A revolving fund was recommended by the Defense Science Board Study on industrial responsiveness.

Advantages: A revolving fund concept will provide DoD with additional funds necessary for improving the productivity and responsiveness of the DoD-owned segment of the industrial base. This revolving fund, made up of rental and sales receipts and appropriated dollars, will provide an established source of funds so that long range capital investment can be made to improve the ailing defense industrial base. Establishment of the fund would provide the motivation for plant account managers to more aggressively turn in excess materiel.

Disadvantages: Receipts of the General Treasury will be reduced.

Action Required: Establish a revolving fund under existing or new authority (new legislation) to permit retention of rental and sale receipts within DoD for modernization of DoD owned equipment. (A-27)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

Reduce the administrative cost and time to procure items.

In 1974, 10 US Code 2304-A3 established less stringent requirements for DoD contract procedures associated with purchases under \$10,000. Over the years the tendency of a beauracracy to take precautions has expanded the paperwork associated with a procurement, and inflation has reduced the purchasing power of the dollar until the \$10,000 contract of 1974 would cost almost twice that much to purchase today. A similiar inequity exists in the administrative procedures governing contract funding execution.

Recommendation: Reduce required paperwork and administrative costs by raising certain procurement limits and easing paperwork requirements.

Advantages: Provides immediate relief from unnecessary paperwork burden. Reduces administrative lead time, which will result in reductions in in-house and industry overhead cost. Supports a far more efficient Government cash flow management.

Disadvantages: Less opportunities for legal reviews.

Action Required:

- o Raise the \$10,000 limit in 10 USC 2304-A3 to \$20,000, and tie it to the CPI to provide for automatic relief from inflation effects.
- o Provide similiar increased thresholds for all classes of purchases.
- o Emphasize use of class Determinations and Findings (D&F's) already permitted, and raise the threshold from the current \$100,000 to \$2 million.
- o Encourage greater use of Class D&Fs.
- o Decentralize some OSD control of reprogramming by raising the RDT&E threshold from \$2 to \$10 million and the procurement from \$5 to \$25 million.
- o Eliminate the need for a D&F for competitive negotiation. (A-18)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapprove: _____

o Encourage capital investment/facilitization.

Productivity in the defense sector of the U.S. economy has been lagging, in large part because of low levels of capital investment compared to U.S. manufacturing in general. Cash flow problems, tax policy and high interest rates tend to limit available investment capital. The industry views low profits and program instability as precluding investment in capital equipment. This situation has two major implications: a tendency to shift from defense to commercial business, and a decrease in funds available for facilitization.

Recommendation: Encourage capital investment.

Advantages: Will increase long-term investments which should lead to lower unit costs of weapons systems. Increases productivity.

Disadvantages: Earlier Government disbursements. Some reduction in tax revenues.

Action Required: Expedite payments through increase progress payment limits. Seek further legislative initiatives to permit interest on facilitization cost as an allowable expense and more rapid capital equipment depreciation.

(A-29)

Approved: _____
Idea Needs More Development: _____
I Need More Information: _____
Disapproved: _____

III. Items Readily Within DoD Control (Moderate Pay Off)

- o Establish a comprehensive DoD course in financial management. The course should be established at the Defense Systems Management College and be similar to the PM's course in terms of management support, prestige, rigor and perspective. (A-8)
- o Transfer, permanently or temporarily, cost analyst personnel to selected program managers to augment their estimating capability. At the same time continue effort to generate independent estimates. (A-1)
- o Require the Services to (1) establish an inflation tracking function within the appropriate cost analysis organizations and (2) update estimates for prior year inflation at least annually. OSD should retain review authority, but the current prior approval requirement should be dropped as soon as an acceptable Service capability is established. (A-2)
- o Include sufficient time and funds in program schedules to accomplish needed design iterations to achieve cost goals. Avoid "success oriented" scheduling. (A-12)
- o More rigorous attention to the quantity and type of data to be procured. Often data is routinely purchased and not necessary (e.g. a Technical Data Package from a sole source contractor when no follow-on procurement is planned). (A-17)
- o Insure that the protection of government's data rights receives adequate management attention. Structure Full Scale Development (FSD) contracts to assure DoD will retain the required data rights to support competitive spare parts procurement. (A-23)
- o Restructure DoD policies to integrate all cost control and reduction methodologies under a single program such as Design to Cost or Life Cycle Costing. Insure all available cost reduction resources and techniques are emphasized to achieve stated goals. This includes value engineering (V.E.). (A-24)
- o Develop and disseminate techniques such as design to cost and value engineering applied to software. Provide for a more cost oriented management of software. Recognize inherent limitations on accelerating software developments. Use contract incentives to control the cost of developing and maintaining software. (A-34)
- o Provide adequate resources to take the necessary action for expansion of the Manufacturing Technology Program (ManTech) to help improve the rate of productivity growth. (A-25)

- o Place added emphasis on cost reduction activities by program management personnel by:
 - a. Encouraging SES and MPS employees, where appropriate, to establish specific cost reduction goals in their objective setting sessions.
 - b. Basing SES bonuses and MPS awards, where appropriate on achievement of cost goals.
 - c. Making cost reduction an integral part of the job descriptions of program management engineers. (A-31)
- o Make achievement of cost goals an essential element of program continuation. For priority programs, experiencing severe cost growth, require the establishment of a plan to recover to the original goals or offset as much cost growth as possible. Use a similar plan to manage subsequent changes to improve or modernize existing assets. (A-10)
- o Perform longer range total program business strategy planning with a specific goal to minimize cost to the government. In acquisition strategy plans provide incentives and awards for each contract which are consistent with the government long range goals. (A-28)
- o Strengthen consideration of international collaboration in requirements documents. Encure consideration of foreign systems (especially those which are deployed) as alternative options in acquisition strategies. (A-30)
- o When substantial front end investment is necessary to create competition, the program manager should demonstrate the potential benefits from competition (maintaining competition is not an end in itself). Technical competition during development which requires large investment should only be maintained if clearly advantageous, for instance when truly different concepts are pursued. These recommendations should be implemented by revising DODD 5000.1 and DODI 5000.2 to make generation of competition and dual development optional. (A-20)
- o Emphasize the use of class Determinations and Findings which require Secretarial approval. (A-18)
- o When contractors are competing for a system, they are frequently carried completely through Full Scale Development (FSD). This can be avoided by establishing an acquisition strategy that permits earlier termination of clearly deficient contractors. Require all FSD competing contracts to be structured such that termination decisions can be executed at appropriate FSD milestones, such as critical design review. (A-22)
- o Plan and approve a logical conclusion of programs at the decision to proceed with full program go ahead. (A-16)

IV. Items Not Within SecDef Control (Moderate Pay Off)

- o Implement non-OIB rate projections based on specific industry, labor, and material factors for weapons classes or individual weapons systems. Indices can be promulgated by a centralized functional organization at any level from Service Headquarters to the buying command.
- o OSD request legislative action to repeal arbitrary ceilings on high-grade positions in general (or specifically for system acquisition activities).

(A-4)

(A-26)

Provide Realistic Costs

Idea: Allocate DOD Cost analyst personnel such that key program managers have adequate capability to prepare quality estimates.

Problem: Shortfall of qualified cost estimating personnel.

Way it is done now: Some headquarters retain qualified cost estimators to perform independent estimates.

Specific recommendations to implement idea: Transfer, permanently or temporarily, personnel from these headquarters to selected P.M. offices to augment their estimating capability.

Advantages: Should provide better cost estimating capability in the program managers office.

Disadvantages: May limit the services preparation of necessary independent estimates. May be difficult in light of personnel shortage. May obscure the need to reduce administrative burdens.

Name of Submitter: LtCol Joseph R. Calek, Rm 2D278, Ph 70221

Provide Realistic Costs

Idea: Standardize procedure and improve the capability to track and adjust for historical inflation.

Problem: Programs may span 10 to 15 years from inception to completion. As the program proceeds, inflation differences in prior years are not always incorporated in the base to which new outyear projections are applied. This is particularly true of the transition from the development to production phase. At any given point in time, if outyear projections are reasonable but adjustments to the index for prior year errors have not been made, the outyears are understated. This situation often occurs as we transition from R&D to production.

Way it is done now: Existing procedures permit prior year rate adjustments if prior OSD approval is granted. Typically, R&D effort is slipped from year to year when inflation has reduced the buying power of the current TOA. Since additional funding is usually not available, program offices live with the problem and resist expending effort to update indices which don't result in help with the current problem. Often they are unaware that they are building a backlog of understated inflation. This is especially true if the program office is not presently experiencing production related inflation because it is still in R&D. The program office is unaware except in the most general sense that its yet to come production program is experiencing inflation growth.

Specific recommendation to implement idea: Require the Services to (1) establish an inflation tracking function within the appropriate cost analysis organizations and (2) update estimates for prior year inflation at least annually. OSD should retain review authority but the current prior approval requirement should be dropped as soon as an acceptable Service capability is established.

Advantages: Will reduce the inflation "bow wave" particularly in the transition from R&D to production. Overcomes some of the impact of OMB rates. Improves outyear estimates by establishing a realistic base from which to project inflation.

Disadvantages: Requires an element of management control and oversight as well as the need to maintain data bases. May strain already limited cost analysis manpower resources.

Name of submitter: Gary Christle, OASD(C)
X50706

Provide Realistic Costs

Idea: Remove the requirement to predict inflation.

Problem: Errors in inflation rates impact cost growth at least two ways: (1) When projections are low, outyear costs increase due purely to economic factors, (2) the fact that inflation exists magnifies the impact of cost growth arising from all other factors.

Way it is done now: Budgets are initially formulated as much as two years prior to the first year of execution. Execution occurs over as many as seven years or more. Differences between estimates and actually incurred inflation can result in unexecutable programs. We live with the uncertainty and either pad budgets, reprogram from lower priority activities, or stretch programs.

Specific recommendations to implement idea: Budget in constant dollars and incrementally fund inflation.

Advantages: Removes inflation uncertainty as a component of cost growth.

Disadvantages: Will require legislative action. Is subject to abuse if not strictly controlled. Control may require more administration and paper work than the present approach.

Name of submitter: Mr. Margolis
OASD(PA&E)
X50721

Provide Realistic Costs

Idea: Use realistic inflation rate projections.

Problem: Optimistic inflation projections result in program instability.

Way it is done now: OMB generated target rates are mandated for all DoD estimates except in those cases where a contract includes an Economic Price Adjustment clause.

Specific recommendations to implement idea: Implement non-OMB rate projections based on specific industry, labor, and material factors for weapons classes or individual weapons systems. Indices can be promulgated by a centralized functional organization at any level from Service Hq to the buying command. The specific level at which composite or specific labor/material rates are established will be subject to review by appropriate higher functional levels including OSD to insure control over the quality of the rate projections.

Advantages: Should yield better rate projections, tailored to specific weapons programs or classes.

Disadvantages: Rate projections may conflict with established administration goals and economic policies. Control over rate determination may be difficult.

Name of submitter: Gary Christie
OASD(C)
X50706

Provide Realistic Costs

Idea: Better forecasting of business base conditions at major defense plants to generate more optional man loading schedules.

Problem: The business base at key defense plants is not adequately considered in DoD program development. Cross Service impacts and the effects of non-DoD work distort business base projections and seriously increase overhead costs. This has caused large cost growth for certain weapons systems (F-18, LAMPS III).

Way it is done now: Too little consideration given to this factor in planning and decision-making.

Specific recommendation to implement idea: The Services will increase effort to coordinate programming information that affects other Service overhead costs at given defense plants. Information will be provided that allows each Service to update its business projections. The OSD Cost Analysis Improvement Group (CAIG) will coordinate this data exchange. The Services will attempt to plan, program and budget so as to reduce overhead costs to the Government at these joint use plants.

Advantages: o Minimizes program schedule decisions that cause cost increases in other defense programs.

Disadvantages: Some additional work for designated agency.

Provide Realistic Costs

Idea: Provide realistic weapons system budgets.

Problem: Intentionally low initial estimates are a prime contributor to cost growth.

Way it is done now: Programs are sometimes understated because we: force-fit programs to budgets, motivate contractors to absorb or underwrite costs temporarily. We allow contractors to drive price below expected costs as a means of buying in.

Specific recommendations to implement idea:

Do not force fit programs into a funding profile.

Base negotiations on a knowledgeable should and/or most likely cost.

Advantages: Eliminates the false perception that cost is a dominant factor; instead, provides equal emphasis to constituent elements of "total" cost; past performance, cost credibility, schedule realism, facilitization plans, as well as technical and management approach. Minimizes contractor or government buy-in.

Disadvantages: None.

Name of submitter: John McKeown, DSMC
664-2289

Provide Realistic Costs

Idea: Evaluate, quantify and plan for risk.

Problem: During the evaluation of programs or contractor proposals, risk is normally evaluated qualitatively while budgets and schedules are developed on an optimistic assumption that the contractor proposals and program estimates/schedules are realistic. The evaluation of risk is rarely quantified, budgeted or planned in the schedule resulting in "surprises" in cost growth or schedule slippage stemming from known high risk areas.

Specific recommendations to implement idea:

1. Establish policy that program estimates and schedules should account for "most-likely" costs and time.
2. Ensure Services baseline the program's technical, cost and schedule with sufficient margin for error (i.e., include management reserve and schedule reserve for reasonable technical difficulty).

Advantages:

1. Reduce unexpected cost growth resulting in unfunded requirements and overruns.
2. Stabilize the budget.
3. Provides better operational and support planning schedules.
4. Provides a measuring stick for success or failure of a program.

Disadvantages:

1. Higher initial program estimates would result in fewer programs within a stated total obligation authority.
2. Additional program management control required.

Name of submitter: LtCol Gillogly, USAF
HQ AFSC/X2116

Provide Realistic Costs

Idea: Establish a project financial management training course.

Problem: Many project offices lack personnel adequately trained in all aspects of financial planning and cost control. Project offices must prepare cost estimates, insure contract funds administration, account for inflation, past and future, restructure estimates for contract and budget changes, analyze contract cost data and incorporate it into estimates, manage design-to-cost activities, and report cost status to higher headquarters. The ability to control costs in a rapidly changing environment requires an integrated financial planning and management function within the project office.

The way it is done now: DoD schools presently provide courses and seminar type programs on individual aspects of financial management, but none provides an integrated block of instruction on all aspects of the problem from a project office perspective.

Specific recommendations to implementation idea: Establish a comprehensive DoD course in project financial management. The course should be established at the Defense Systems Management College and be similar to the PM's course in terms of management support, prestige, rigor and perspective.

Advantages: Will insure adequate financial planning and control resulting in better budgets and fewer financial surprises.

Disadvantages: Will strain existing educational resources.

Provide Realistic Costs

Idea: Require the use of the standards process to invoke non-product management information requirements in defense contracts.

Problem: There are few standard formats that may be used in contracts that require management information for disciplines, such as Configuration Management, Quality Assurance, Maintainability, Test, Reliability, etc. This requires contractors to prepare these documents in a variety of ways that are often not cost effective.

Way it is done now: The Defense Standardization and Specifications Program (DSSP) permits the creation of Military Specifications and Standards in the non-product areas that are either fully coordinated documents (coordinated with two or more services) or limited coordination documents that may be limited for use by a single activity. In addition contracting activities also use other documents; e.g., directives, regulations, instructions, etc., to invoke non-product management information requirements in contracts instead of Military Specifications and Standards required by law. Often these other documents contain duplicative requirements, are difficult to tailor for contractual application, contain irrelevant information for contracting purposes, and are not readily available to contractors when cited in contracts.

Specific recommendation to implement idea: Amend the policies of the DSSP to limit the issuance of DoD non-product discipline documents to the fully coordinated Military Specification or Standard, and eliminate the use of any other procedure to invoke non-product management information requirements in Defense contracts.

Advantages:

- o Standard non-product management information requirements in contracts.
- o Contractors can better respond to requirements in a timely, efficient and cost-effective manner.
- o Requirements documents readily available to contractors through existing distribution system.
- o Reduced size of government solicitations by eliminating the need to furnish non-standard documents to contractors.

Disadvantages:

- o More time required to prepare a fully coordinated document.
- o More time required in document coordination cycle due to expanded interest and potential users.
- o May restrict flexibility of program manager.

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AV 289-2343

Discipline Weapons Performance/Technical Requirements (Eliminate Gold-Plating)

Idea: More rigorous attention to cost goals, thresholds and status.

Problem: Cost growth, no matter how severe, never seems to result in program cancellation.

Way it is done now: Current DoD Directives and Instructions require continuing attention to weapon system cost. Consequently cost goals are developed and comparisons between current forecasts of costs and cost goals are reported often. Cost forecasts are among the topics included in program reviews and briefings conducted at all levels. As the program proceeds, changes are directed. Current policy does not address adequately the question of whether cost goals should be increased because of changes or if offset must be taken so that the cost goal remains stable. Decision documents rarely require effective action to reduce costs if the program is allowed to continue. Therefore, cost reduction continues to have large potential in the DoD acquisition process.

Specific recommendations to implement ideas: Make achieving program cost goals essential to program continuation. For priority programs which are to be allowed to continue despite significant cost growth, condition continuation upon a specific plan by the program sponsor to recover to the original cost goals or to establish a cost reduction plan to offset as much of the cost growth as possible. Require approval of the sponsor's plan and periodic status reports until there is evidence of effective cost control. To manage subsequent changes, use a similar plan of goals and status reports. Identify and manage to specific cost goals each block of changes to improve or modernize existing assets.

Advantages: Greater likelihood of affordable costs. Prevent "buying in" Reduce stretch-outs and inefficient production rates. Reduce delays in force modernization. Cost of changes would be visible and better managed. Change costs can be included in contract cost incentives.

Disadvantages: o May cause program delays. May encourage changes if added to original cost goals.

o Creates additional workload.

o Risks fielding needed equipment.

Name of submitter: G. A. Frank
DoD Product Engineering Services Office
756-2335

Discipline Weapons Performance/Technical Requirements (Eliminate Gold-Plating)

Idea: Reduce acquisition and total life cycle costs through development and use of standard operational and support systems.

Problem: Individual Service Requirements result in redundant development of avionics, subsystems, and support equipment.

Way it is done now: Individual Services are predisposed to specifying requirements for subsystems (especially aircraft subsystems) that eliminate the possibility for multi-system and joint Service use. New avionics and support systems are developed that are peculiar, yet redundant in many capabilities. Many opportunities exist to consolidate requirements and develop single, standard items.

Specific recommendations to implement idea:

1. Require an independent Joint Services Review Committee (JSRC/AVCS) report and recommendation on new avionics component and subsystems as part of DSARC documentation.
2. Require cost, schedule, and performance trade studies comparing the use of standardized or existing subsystems in lieu of new subsystems development as part of DSARC documentation.
3. Require joint Service staff review of new avionics items to insure that requirements are not being "gamed" to justify development of a new item.
4. Reduce risk in major systems by utilizing existing standard, off-the-shelf, foreign, or modified existing systems for initial deployment while pursuing new, high risk, standardized avionics development as a pre-planned product improvement.
5. If a given subsystem is selected and imposed on a program manager who has no control of cost or delivery schedule of the system, assure that the subsystem is acquired on a fixed price, firm delivery basis to the maximum extent possible.
6. Standardize, across all Services, all automatic test standardization efforts. Eliminate Service-peculiar requirements and adopt a set of standard DoD guides for development of software, test diagnostics, interface requirements, and modular concepts.
7. Establish a central focal point within DoD for review of new system support equipment requirements against support equipment already in the DoD inventory. If existing equipment is approved to meet a requirement, place control of assets needed for initial deployment with the program manager.

Advantages:

1. Acquisition cost reduction.
2. Earlier deployment of IOC.
3. Better accommodation to threat.
4. Reduced risk.
5. Program stability.
6. Enhanced supportability.
7. Reduction in operating costs.

Disadvantages:

1. Inter-Service cooperation required.
2. (Possible) delay in achieving enhanced capability.
3. Retrofit requires pre-planning to minimize cost.
4. More front end review of coordination time.

Name of submitter: LtCol Ball, USAF HQ AFSC/ext. 2451

Discipline Weapons Performance/Technical Requirements (Eliminate Gold-Plating)

Idea: Program plans need to include schedule and funds for design tradeoffs and cost reduction activities.

Problem: "Success Oriented" program schedules omit time needed to perform cost control and cost reduction work.

Way it is done now: We develop by addition, that is, we fix performance deficiencies by adding to existing design concepts. When it works, we stop designing and produce.

Specific recommendations to implement idea: Include in program schedules sufficient time to accomplish needed design iterations to achieve cost goals. Avoid "success oriented" scheduling except in genuine cases of national emergency. Make plans for any necessary design iterations to achieve cost goals or cost reduction a major topic of program reviews. When necessary in cases of extreme cost growth, require plan to return to original cost goal ("zero" cost growth).

Advantages: Cost goals are more likely to be met.
Simpler, more reliable equipment as a result of added engineering effort.

Disadvantages: Stretchout in acquisition program if not otherwise compensated.
Additional front end investment

Name of submitter: G.A. Frank
DOD Product Engineering Service Office
756-2335

Discipline Weapons Performance/Technical Requirements (Eliminate Gold-Plating)

Idea: Expand and reemphasize the program to identify existing military and federal specifications for off-the-shelf commercial products and establish specific schedules for their review and conversion to Commercial Item Descriptions (CIDs) to allow competitive procurement.

Problem: The DoD maintains a considerable number of military specifications that describe off-the-shelf commercial products. Many of these can and should be converted to simple product descriptions with resultant savings in document maintenance costs. The program to bring this conversion about should be expanded and accelerated.

Specific recommendations to implement idea: The DoD should develop a specific schedule under the Defense Specification and Standardization Program (DSSP) to review specifications in selected Federal Supply Classes. Each document identified as covering an off-the-shelf product should be scheduled for conversion.

Advantages: Conversion of the more complex specifications to a simple (normally one page) Commercial Item Description will result in reduced document maintenance costs and will assure DoD conformance to OFPP objectives under the Acquisition and Distribution of Commercial Products Program (ADCoP) to eliminate unnecessary federal and military specifications.

Disadvantages: This accelerated program will obviously result in increased workload on the agencies, with attendant resource requirements.

Name of submitter: John E. Burke, DMSSO
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Subsystem Product Improvements

Idea: Use off-the-shelf items wherever possible and defer high risk elements to preplanned product improvements.

Problem: Frequently a program will proceed into Full Scale Development with subsystems, or elements with significantly higher risk than the majority of other areas in the systems. This creates schedule delays, cost overrun, technical underruns or program cancellations only because of the one or two high risk areas.

Way its done now: System performance and/or reliability requirements are established with known high risk areas. We assume an equal level of success and later find that we cannot accomplish original requirements because of the high risk area. The entire program is stalled awaiting the achievement of the technology.

Specific recommendations to implement idea: Write new policy. Revise DODI 5000.2 to state:

1. Program managers should assess and define high risk elements within their program.
2. Use off-the-shelf items when reliability or performance will be a suitable substitute (i.e., the performance or reliability is adequate for development or initial production).
3. A pre-planned product improvement should be conceived, budgeted and supported to develop, in parallel, the high risk components for subsequent production lots or retrofit.

Advantages:

1. Reduces overall development cost.
2. Shortens demonstration & development of a practical system.
3. More confident cost estimate.
4. Discrete, manageable program subset.

Disadvantages:

1. Increased budgeted cost for high risk subsystem.
2. Lower-than-goal performance or reliability systems.
3. May introduce obsolescent items.

Name of Submitter: Lt Col Gillogly, USAF
X2116

Increase Stability (Function, Schedule, Production Quantities)

Idea: Can stability be introduced into the acquisition process in a meaningful way?

Problem: Program instability is inherently costly, erodes the industrial base, leads to delayed deployment thereby reducing readiness through retention of overage equipment and fielding of "old" technology, and undermines public confidence in DoD management. The 50 major programs covered by the December 31, 1980 Selected Acquisition Reports (SARs) reflected total cost growth of 129% over the milestone II estimates. On average these programs are about half way through their acquisition cycle. Reasons for growth are economic (27%), quantity changes (26%), estimating changes (18%), schedule changes (15%), support changes (7%), engineering changes (5%), and other changes (2%). Although only 27% is attributed to economic changes, nearly two-thirds of the remaining increase is inflation associated with the changes. To merely put this aside as inflation, however, ignores the point that it still represents increased cost to DoD due solely to the fact that we changed our original plans. 46% of all growth is due to quantity and schedule changes, the prime measures of instability. Furthermore, schedule slips magnify the impact of economic changes as well as the impact of inflation on all other change categories. Quantity and schedule changes also contribute most of the support change.

Of the 47 programs, 19 have had quantity increases, 20 quantity decreases, and 8 are unchanged. Schedule changes have resulted in reduced costs on 4 programs, and increased costs on 38. The most common cause for these changes is financial. We reduce quantities and stretch schedules because current year budget ceilings do not permit funding of all the things we want. The majority, though certainly not all, of the quantity increases are more apparent than real. Missiles, ships, and some aircraft quantities have increased because we tend to limit totals for these items to the FYDP years. Others (e.g., F-16) represent deliberate decisions not to reflect total likely quantities.

Specific recommendation to implement idea:

1. Strive to fully fund in the FYDP and EPA, the R&D and Procurement of major systems at levels necessary to protect the acquisition schedule established at the time the program is baselined, currently Milestone II. Limit stretch-outs due to funding constraints (except when Congressionally mandated). In general, only changes which are directed by changed requirements or development problems should occur.

2. Plan for changes by a commitment to follow-on product improvement. Significant problems (particularly reliability and maintainability) may require immediate fixes. Closely control change.
3. Budget for a management reserve.
4. Fund priority systems to sustain economic rates of production, and during development, fence funding that provides for sufficient prototypes, for facilitization and for supporting equipment required to fully field and maintain the system.
5. Terminate lowest priority efforts to enable sufficient funds to support the above proposed acquisition strategy.

Advantages:

1. Reduces costs by stabilizing schedules, quantities, and production rates.
2. Will enhance the ability to plan force modernizations.
3. This recommendation is compatible with all proposed "Acquisition Process" alternatives.

Disadvantages:

1. Budget flexibility will be reduced.

Name of submitter: Gary E. Christle
OASD(C)/55166

Increase Stability (Function, Schedule, Production Quantities)

Idea: Plan for the logical conclusion of program.

Problem: Major weapon system follow-on planning often proceeds for several years beyond the original production point resulting in non-optimum production rates and extended engineering.

Specific recommendations to implement idea: Plan and approve a logical conclusion of programs at the decision to proceed with full program go-ahead.

Advantages:

1. Reduce length of acquisition.
2. Prevent high unit cost at program completion.
3. Provide opportunity to plan new/modified systems against a baseline system.

Disadvantages: Limits ability to maintain warm production base.

Name of Submitter: LtCol Gillogly, HQAFSC
981-2116

Reduce Required Paperwork

Idea: Selective procurement of data.

Problem: Expensive data is sometimes purchased regardless of whether an actual need for the data exists.

Specific recommendations to implement idea: Ensure that a conscious decision be made whether specific data should be purchased or not. (As an example, Technical Data Packages (TDP) are often purchased routinely.)

Advantages:

1. The decision not to buy will reduce cost.
2. Possible deferred purchase will increase quality of the data packages.
3. First production contract is often awarded on a sole source basis and no need for the certain packages exist (ie TDP).

Disadvantages: None

Name of submitter: Ms. Erika Kussy OASN(RES)
X27674

Reduce Required Paperwork

Idea: Reduce the administrative burden and cost of contracting for small purchases, and improve program funding execution.

Problem: In 1974, 10 US Code 2304-A3 established less stringent requirements for DoD contract procedures associated with purchases under \$10,000. The purpose was to reduce both the time and paperwork costs to a level commensurate with the value of the item being purchased. Over the years the tendency of a bureaucracy to take precautions has expanded the paperwork associated with a procurement, and inflation has reduced the purchasing power of the dollar until the \$10,000 contract of 1974 would cost almost twice that much to purchase today.

A similar inequity exists in the administrative procedures governing contract funding execution. Department of Defense and Service procedures place numerous administrative requirements on the obligation of funds. They provide unnecessarily cumbersome safeguards for the public interest. There is also a general tendency to apply the most burdensome procedures, even if administrative shortcuts are allowed. The DoD is motivating its contract and fund administrators to avoid the least possibility of criticism rather than to achieve economic procedures.

Specific recommendations to implement idea:

- o Raise the \$10,000 limit in 10 USC 2304-A3 to \$20,000, and tie it to the CPI to provide for automatic relief from inflation effects.
- o Provide similar increased thresholds for all classes of purchases.
- o Emphasize use of class Determinations and Findings (D&F's) already permitted, and raise the threshold from the current \$100,000 to \$2 million.
- o Encourage greater use of Class D&Fs.
- o Decentralize some OSD control of funds by raising the RDT&E threshold from \$2 to \$10 million and the procurement from \$5 to \$25 million.
- o Direct a thorough service review and report to OSD of the current administrative procedures implementing the Defense Acquisition Regulation (DAR). The report should show exactly which administrative procedures and forms are currently mandatory for each class of procurement and which are optional; and how often the optional forms are used. The Service should estimate the in-house manpower cost of these procedures.

- Advantages:
- o Provide immediate relief from unnecessary paperwork burden.
 - o Reduce administrative lead time, which will result in reductions in in-house and industry overhead cost.
 - o Support a far more efficient Government cash flow management.

- Disadvantages:
- o Less opportunities for legal reviews

Reduce Required Paperwork

Idea: Seek relief of DoD participation in various environmental/social programs related to acquisition.

Problem: Many laws and/or executive orders require DoD to participate in socio-economic programs for the furtherance of certain stated objectives. Participation in these programs can adversely effect acquisition/construction schedules and/or costs of DoD programs.

Way it is done now: Annual guidance regarding percentage of contract awards and dollar amounts is given. Targets are established for minority small businesses, and labor area set-asides. Certain laws (i.e., PL 95-507) require prime contractors to use minority, small business or disadvantaged subcontractors. We require prime contractors have Affirmative Action and Equal Opportunity Plans and monitor subcontractor implementation. We enforce environmental considerations in contracts. The Bacon-Davis and Service Contract Acts require our contractors to pay artificially high labor rates. The Marony Amendment requires DoD to establish wage rates on adjoining markets, frequently distant from the homes and work sites of employees. OPFF letter 80-1 establishes the Small Business Association as a contracting agency for DoD. More than 64 statutory requirements have been identified by OFPP and the GAO. NSIA estimates that participation in these programs can increase the cost of some of our contracts by twenty percent.

Specific recommendation to implement idea: Obtain Congressional and Presidential approval to reduce the number of environmental/social programs that are enforced through government contracts.

Advantages:

1. Less cost to contractors in doing business with the government.
2. Cheaper DoD program costs.
3. Less government personnel to police these activities.
4. Simpler contracting procedures.
5. Faster contract awards.

Disadvantages:

1. Perception of political concern for these social programs may be diminished.

Competition

Idea: Introduce competition on a more selective basis.

Problem: The latest RAND study on competition found that it is not clear whether competitive reprourement pays off as a financial investment on systems as complex as missiles, because there is as yet no evidence that internal rates of return are high enough to justify the drain on front-end funds.

Way it is done now: OMB circular A-109, DODD 5000.1, and DODI 5000.2 not only encourage competitive source selection but also emphasize the active generation of competition even when it requires added financial investment. Furthermore, the regulations aim at multiple development as the rule and permit single concept development only by exception.

Specific recommendations to implement idea:

1. When substantial front-end investment is necessary to create competition, the program manager should demonstrate the potential benefits from competition (maintaining competition is not an end in itself).
2. Technical competition during development which requires large investment should only be maintained if clearly advantageous, for instance when truly different concepts are pursued.
3. These recommendations should be implemented by revising DODD 5000.1 and DODI 5000.2 to make generation of competition and dual development optional.

Advantages:

- o Reduced investment cost.
- o Early program stability.
- o Facilitization costs are saved.

Disadvantages:

- o In the case of single concept development, some greater risk of success may occur.
- o Limits broadening of the development base.

Name of submitter: Erika Kussy
OASN(RE&S)
X44480

Competition

Idea: Improve the Source Selection Process

Problem: Some DoD competitively selected contractors have performed poorly.

May it is done now: Source selection criteria do not sufficiently take into account past performance or future phases of a program. Credibility and realism of proposals are not challenged.

Specific recommendation to implement idea: Selection criteria should put an emphasis on past performance, cost credibility, schedule realism and facilitization plans.

Advantages: Eliminate poor performers.
Eliminate proposals that are unrealistically priced thereby reducing the risk of buy-ins.

Disadvantages: May limit competition.

Name of submitter: Ms. Erika Kussy OASN(RES)
X27674

Competition

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- o Limits broadening of the development base.

Name of submitter: Erika Kussy
OASN(RE&S)
X44480

Competition

Idea: Structure the FSD contract to assure DoD will obtain the data rights required to support future competitive spare parts procurement.

Problem: The improper selection of data rights clauses allows contractors and subcontractors to mark drawings proprietary causing the government added expense is procuring spare parts.

Way it is done now: The selection and enforcement of appropriate contract data rights clauses is often inadequate. This results in purchase of spares from a sole source. Sole source procurement of proprietary spares almost always more expensive than the competitive process.

Specific recommendations to implement idea: Insure that the selection and enforcement of the data rights clauses receives adequate management attention and that a conscious specific decision is made to procure or not procure these rights.

Advantages: Spare parts can be procured on a competitive basis. Eliminate sole source buying problem.

Disadvantages: Added cost to procure this data.

Name of submitter: R. L. Bidwell
DoD Product Engineering Services Office
756-2331

Increase Productivity

Idea: Integrate value engineering (VE) and other cost reduction techniques into a single coordinated attack to achieve stated cost goals or reduce costs.

Problem: Although VE and other cost reduction techniques and incentives exist, they are not emphasized. Some believe VE is a "Give Away". Few recognize that half a saving is better than 100% of no saving. Further, cost reduction techniques are not generally recognized as a way to help achieve cost goals.

Way it is done now: Little emphasis on value engineering and other cost containment concepts. Scattered effort. Great unrealized potential.

Specific recommendations to implement idea: Restructure DoD policies to integrate all cost control and reduction methodologies under a single program such as Design to Cost or Life Cycle Costing. Make cost management a single thrust which utilizes all available cost resources and techniques to achieve stated goals.

Advantages: Provides techniques to achieve cost goals.
Offers a way to make cost goals and cost reduction happen.
Makes cost truly comparable to performance as a design criterion.

Disadvantages: May lead to cost reduction as a goal in itself.
Excessive reporting and auditing requirements.
(Small) likelihood of cost over emphasis.

Name of submitter: G.A. Frank
DOD Product Engineering Service Office
756-2335

Increase Productivity

Idea: Expand the Manufacturing Technology Program (Man Tech) budget to fund cost reduction opportunities.

Problem: Manufacturing represents a large portion of the total cost of defense systems; and since these costs continue to rise, the DoD must aggressively pursue the reduction of cost as well as improve the responsiveness of our industrial base.

Way it is done now: The objective of Man Tech is to assure that the United States' industrial base is capable of timely, cost effective production of DoD weapons systems. We pursue this objective by investing seed money with industry in such a way that the managerial and technical risks associated with implementing new manufacturing technologies are reduced. It has proven to be very effective in making the transition of advanced manufacturing technology from the laboratory to the factory floor. The FY 1981 budget is \$157.1 million.

Specific recommendations to implement idea: Provide adequate resources to take the necessary action for expansion of the Man Tech program to help improve the rate of productivity growth.

Advantages: Permits costs reduction to start after R&E is accomplished and continue through the production phase. Relieves material shortages by introducing manufacturing processes that don't create large amounts of scrap. Quality improved through use of modern manufacturing technologies. Reduces weapons systems acquisition cost. Allows ideas to be transferred from one company to another. Provides spin-off benefits to non-defense industries and small businesses.

Disadvantages: Added limited investment cost.

Name of submitter: Burton E. Bartsch
Defense Industrial Resources Support Office
756-2310

Increase Productivity

Idea: Legislative action is required to remove the arbitrary "high-grade position" (GM-13 through GM-15) quotas which result in severe artificial impediments to effective staffing of critical acquisition management positions.

Problem: Legislatively imposed reductions in Civil Service high-grade positions (FY-79 through FY-82) and the resultant institutionalized high-grade position ceilings are not related to the actual workload, technical/management complexities, sound position management strategies, and total authorized manpower resources (civilian and military). This arbitrary constraint significantly reduces the Government's ability to hire and retain competent acquisition management personnel. The problem is exacerbated by the excessive rate of retirements during the last 12 months.

Way it is done now: There is an inordinate number of vacancies in critical technical/technical management positions because of the high-grade position limitations which are not related to the availability (or assignment) of the authorized civilian ceiling spaces. There is no way to address the problem currently; high-grade position quotas are suballocated through the various agencies without regard for actual demonstrated requirements or responsibility considerations. There is a significant deficiency in allocated quotas.

Specific recommendations to implement idea: OSD request legislative action to repeal the arbitrary high-grade position ceiling in general (or specifically for system acquisition activities).

Advantages:

1. Significant increases in competency of system acquisition management staffs.
2. Significant reduction in personnel turnover rates, and
3. Ability to compete with private industry in hiring and retaining technical/technical management personnel.

Disadvantages:

1. Increased personnel costs if more high-grades established.
2. Negative perception of grade increase by the Congress.

Name of submitter: RADM J. B. WILKINSON, USN
NAVAIRSYSCOM (AIR-01) X22280

Increase Productivity

Idea: Establish a revolving fund to generate money within DoD to modernize government-owned plant and equipment.

Problem: Aging and inefficient government-owned plants and equipment are used for the manufacture of Defense materiel. The average age of DoD-owned production equipment is more than 25 years. Over the past 10 years, very little modernization of government-owned capital assets was done because of the lack of available funding to improve the industrial base.

Way it is done now: Dollars to modernize the DoD-owned segment of the industrial base must compete with the budgets for weapons systems acquisitions, etc. Rental payments for commercial use of DoD-owned plant and receipts from the sale of DoD plant, equipment and excess materiel go to the miscellaneous receipts of the General Treasury.

Specific recommendations to implement idea: Establish a revolving fund under existing authorities or new authority (new legislation) to permit retention of rental and sales within DoD for modernization of DoD-owned equipment. A revolving fund is recommended in the Defense Science Board study on industrial responsiveness and the Air Force has reviewed the concept and recommended OSD initiate action to set up such a fund.

Advantages: A revolving fund concept will provide DoD with additional funds necessary for improving the productivity and responsiveness of the DoD-owned segment of the industrial base. This revolving fund, made up of rental and sales receipts and appropriated dollars, will provide an established source of funds so that long range capital investment can be made to improve the ailing defense industrial base. Establishment of the fund would provide the motivation for plant account managers to more aggressively turn in excess materiel.

Disadvantages: None

Name of submitter: James H. Kordes
Defense Industrial Resources Support Office, OUSDR&E(AF)
(G. Frank)

Increase Productivity

Idea: Structure the incentive and award fees of contracts to minimize the long term cost to the government.

Problem: Contractual incentives tend not to minimize the total cost to the government.

Way it is done now: Currently each contractual action develops an incentive structure which is intended to minimize the cost only for the single contractual period.

Specific recommendations to implement idea:

1. Perform long-range, total program business strategy planning with a specific goal to minimize cost to the government.
2. In acquisition strategy plans provide incentives and awards for each contract which are consistent with government long-range goal.

Advantages: Reduces total system cost.

Name of submitter: Lt Col Gillogly, HQAFSC
981-2116

Increase Productivity

Idea: Encourage capital investment/facilitization

Problem: Productivity in the defense sector of the U.S. economy has been lagging, in large part because of low levels of capital investment compared to U.S. manufacturing in general. Cash flow problems, tax policy and high interest rates tend to limit available investment capital. The industry views low profits and program instability as precluding investment in capital equipment. This situation has two major implications: a tendency to shift from defense to commercial business, and a decrease in funds available for facilitization.

Specific recommendations to implement idea:

- o Expedite Government paying cycle through increased progress payment limits.
- o Encourage legislative initiatives which would permit:
 - facilitization interest as an allowable expense
 - depreciation of capital equipment more rapidly
 - depreciation based on replacement cost
 - greater use of multi-year funding/contracting
- o Increase emphasis on Manufacturing Technology Program
- o Establish incentives for the full-scale development contractor to make productivity investments by assuring him a significant portion of a successful development.

Advantages: Will increase long-term investments which should lead to lower unit costs of weapons systems.

Disadvantages: o Earlier Government disbursements.
o Some reduction in tax revenues.

Name of submitter: John C. McKeown, DSMC, 664-2289

Increased Productivity

Idea: Increase foreign armaments alternatives

Problem: Our NATO Allies have demonstrated the ability to develop high technology new weapon systems. Except for economies of scale realized in Foreign Military Sales (FMS) cases, DoD has not realized substantial benefits from collaboration with friendly foreign nations. The Government misses opportunities for possible cost savings through higher volume production, synergism of the technology base, reduction of weapons system overhead, and cooperative R&D. To exploit cooperative opportunities, the following areas should be considered:

- a. use of the foreign technology base and R&D;
- b. adoption of foreign systems already deployed;
- c. reduction of overhead (logistics support) as a result of standardization;
- d. co-development and co-production

Specific recommendations to implement idea: Strengthen consideration of international collaboration in requirements documents. Ensure consideration of foreign systems (especially those which are deployed) as alternative options in acquisition strategies.

Advantages:

- o Exploit foreign technology
- o Reduce development investment
- o Increase equipment commonality
- o Shortened acquisition time for developed systems

Disadvantages:

- o Formidable administrative requirements to initiate and execute international agreements
- o Possible dependence on off-shore supplier

Name of Submitter: John McKeown, DSMC, 664-2289

Provide Incentives to Personnel and Organizations to Reduce Costs

Idea: Increase the emphasis of cost reduction accountability for program management personnel.

Problem: Inadequate attention to cost reduction exists in program offices. Contractor engineers responsible for cost reduction have no government technical counterpart.

Way it is done now: Senior and middle management civilian personnel have only very generalized objectives and measures made on their cost performance. Also, government engineers have no responsibility for cost reduction and are not rewarded for any changes that are proposed to reduce cost.

Specific recommendation to implement idea:

1. Require the development, negotiation and agreement by all program management SES and MPS employees of specific cost reduction goals in their objective setting sessions.
2. Tie SES bonuses and MPS awards to achievement of cost goals.
3. Require cost reduction to be part of the job descriptions of program management engineers.

Advantages:

- o Motivate cost reduction performance.
- o Reduces system cost.
- o Expands cost reduction responsibilities.
- o Provides a system of rewards.

Disadvantages:

- o Added personnel burden.

Provide Incentives to Personnel and Organizations to Reduce Costs

Idea: Associate production profit to attaining or bettering the production cost goal during contract.

Problem: Design to Cost (DTC) fee awards are made as a result of paper analysis. There is little or no tie to actual costs in production.

Way it is done now: DTC incentive fees and awards are payable during and at the conclusion of FSED. Award is based on the forecasted average cost for the production quantity.

Specific recommendations to implement idea: Develop contract terms and procedures to provide for the payment of DTC awards and incentives based upon costs actually achieved during early production runs. Base payment on demonstration that initial costs are on trend to DTC goal for total forecasted production. Include penalties for costs in excess of goals and provide added contract incentives for actual costs less than goals. For example, make the production contract target price the same as the Design to Cost goal and provide instant contract incentives for costs lower than the target.

Advantages: Ties award to "real" achievement
Makes DTC meaningful
Closes credibility gap

Disadvantages: Changes in program (rates, quantity, inflation etc.) complicate analysis of results.
Long time between DTC effort and award payment.

Name of submitter: G. A. Frank
DoD Product Engineering Services Office
756-2335

Management Reserve

Idea: Incorporate and gain acceptance for the use of management reserve to respond to uncertainties in the development and initial production of weapons and materiel systems.

Problem: The majority of DoD systems are subject to uncertainties which cannot be captured in the program's cost estimate. When these uncertainties occur, sub-optimal funding adjustments are required or the system must be delayed until the formal funding process can respond with additional dollars. The Army has initiated a management reserve concept for RDT&E programs. This concept is briefly explained in the attached information paper. The Army is studying the RDT&E concept for application to procurement. The other Services do not have a similar concept.

Specific recommendations to implement idea:

1. Gain Congressional acceptance for the military departments to include a management reserve concept for RDT&E and for initial production of weapons and materiel systems.
2. Candidate programs are those which expect to encounter high technological risks.
3. Provide flexibility to each Service to determine:
 - a. Which programs would use a management reserve.
 - b. The level at which management reserve funds would be held.
 - c. The allocation of unused management reserves.
 - d. The duration of the high risk initial production period.
 - e. A uniform methodology appropriate to that Service's system which would quantify uncertainty.
4. Budget for the dollar total of the baseline estimate plus management reserve.
5. Management reserve funds are not to be used for changes in program scope.

Advantages:

1. Cost estimates will be more realistic over time.
2. Programs will be more efficiently funded and overall program funding will be more stable.

Disadvantages: Can encourage a more money treatment of problems that might be solved in other ways (self-fulfilling prophecy).

INFORMATION PAPER

DAMA-PPR
18 Mar 1981

SUBJECT: Total Risk Assessing Cost Estimate (TRACE)

1. What is TRACE? TRACE is a money management system founded on scientific methods, set procedures and effective controls.
2. What is the purpose of TRACE? To determine a project budget under the conditions of uncertainty that has a reasonable probability of success and can be allocated to minimize losses from unplanned resource requirements.
3. How was the TRACE concept derived? The concept evolved out of DODD 5000.1 and PROMAP 70 in the early 1970's. Mr. Norman Augustine, the then ASA(RD), was the prime force in Army development of TRACE procedures and subsequent concept approval by Congress. An implementing letter of instruction was published in March 1975. AR 70-6 is being revised to include TRACE.
4. How is a TRACE budget developed? There are two types of costs which can be expected in RDTE, known and unknown. A TRACE budget includes the known, engineering estimate, and a percentage of the unknown based on probabilistic simulation of the unknown variables. (Example at Incl 1.)
5. How is a TRACE program executed? Only the engineering estimate is released for execution. The balance, TRACE deferral, is held at HQDA, and released only on approval by the DCSRDA and ASA(RDA) for properly justified reasons.
6. What are the Pros and Cons of TRACE?
 - a. Pro.
 - (1) A compromise between funding for all possible uncertainty and none.
 - (2) Increased program funding stability.
 - (3) Higher Congressional confidence in allocating funds to Army.
 - (4) Improved element of control at DA over project and project problems.
 - (5) Available funds to resolve problems quickly.
 - b. Con.
 - (1) Increased fund management burden.
 - (2) Potential for self-fulfilling prophecy.

DAMA-PPR

18 Mar 1981

SUBJECT: Total Risk Assessing Cost Estimate (TRACE)

(3) Need for continuing education of managers at all levels.

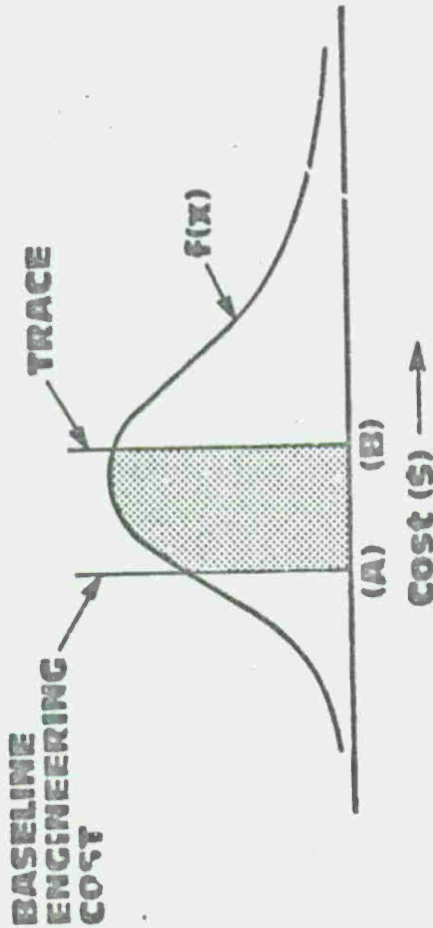
7. What are the limits of TRACE? All major RDTE programs must consider TRACE. Other programs may. Procurement projects do not employ the concept.

8. Could the TRACE concept be extended to procurement? Conceptually yes. Army is now investigating this aspect, particularly for the bridge between development and first procurement.

9. What does Congress see? Army provides only one value, TRACE estimate, for programs which employ the concept. Unused deferred funds are reprogramed according to standard practice.

COL Huggin/53098

TOTAL RDT&E COST DISTRIBUTION



Point A represents the cost of all planned activities and expenditures

Point B represents

- The costs of all planned activities and expenditures.
- % of the cost of the uncertainties associated with planned activities and expenditures.
- % of the cost for all probabilistic and contingency activities.
- % of the cost of the uncertainties associated with probabilistic and contingency activities.

Inclosure 1.

SOFTWARE

Idea: Develop means for cost reduction for software.

Problem: Software costs and schedules have not been well estimated.
Programs are delayed and costs increased.

Way it is done now: Very little has been done to control the costs of developing software, and maintaining it for fielded systems. It is one of the fast growing (and yet uncontrolled) program cost areas.

Specific recommendations to implement idea: Develop and disseminate techniques such as design to cost and value engineering applied to software. Provide for a more cost oriented management of software. Recognize inherent limitations on accelerating software developments. Provide opportunity to exchange lessons learned on effective management of the costs of software. Use contract incentives to control the cost of developing and maintaining software.

Advantages: Provides incentives for lower costs from VE, DTC, etc.
Opportunity to exchange lessons learned. Standardize modules and hardware. Improve scheduling capability.

Name of submitter: G.A. Frank (for L. Schumacher)
DOD Product Engineering Service Office
756-2335

Increase Program Manager's Authority

Idea: Ensure the program manager is responsible for the acquisition of all elements of the system.

Problem: A significant deficiency between the responsibility and authority of the program manager exists in providing total system readiness. Program managers perform the planning of all the support functions, but do not control the programming, budgeting or allocation of resources for spares, common support equipment, training, facilities and operational/ support manpower. In addition there is frequently a diffusion of authority in a layered and collateral management structure created by the need to control different "colors" of money. This can all result in total system cost growth if the program manager perceives the limited support area he does control as not being important to system unit hardware funding. Frequently the "pools" of support funds are used for last year's deficiencies.

Specific recommendation to implement idea:

- a. Assign all acquisition and support funds to the specific systems for which they were originally planned.
- b. Publish policy which assigns the program manager the responsibility and authority for planning, allocating and controlling all support resources.

Advantages:

- a. Reduce total system acquisition and support cost.
- b. Improve the management of total system costs.
- c. Streamline program budgets by including all elements required for its acquisition and deployment.
- d. Reduce administrative overhead cost for management of funds/budgets.
- e. Improve weapon system readiness.

Disadvantages: None

Name of submitter: LtCol Gillogly
HQ AFSC
981-4027

Increase Program Manager's Authority

Idea: Emphasize maximum innovation and delegation of authority, responsibility and accountability within the DoD.

Problem: During recent years there has been a growing tendency to centralize the decision process within the DoD starting with OSD. This practice has been multiplied throughout the numerous levels of authority in each of the Services. This practice has, in and of itself, lengthened the acquisition cycle; created cost increases due to delays in decisions; confused the authority, responsibility and accountability of the designated Program Manager; and has stifled innovation which could produce program improvements leading to cost savings. Matters concerning program decisions, procurement release, business strategy, funding decisions, requirements approvals and operating and support decisions should be delegated to the maximum extent feasible to the Program Manager.

Specific recommendation to implement idea:

- a. Issue an OSD policy statement reemphasizing the requirement to achieve maximum delegation of responsibility, authority and accountability within each Service. The policy statement should encourage each Program Manager to seek innovative approaches or changes to regulations which prevent maximum efficiency in program execution.
- b. Establish direct communication channels between program manager and acquisition commander or Service acquisition executives.

Advantages:

- a. Reduced system cost and shorter acquisition cycles resulting from the introduction of previously restricted innovation.
- b. More efficient reporting by Program Managers.
- c. More visible, responsive and streamlined program management.
- d. Potential elimination of layered management resulting in lean organizations.

Disadvantages:

- a. Some risk of losing a thorough functional analysis of the system because the elimination of intermediate reviews.
- b. Potential wasted effort if the innovation concept is eventually not accepted.

Name of Submitter: Lt Col Gillogly
HQ AFSC
981-4027

TEAM B

SHORTEN ACQUISITION TIME

Defense Acquisition Process
Working Group

B-i

SHORTEN ACQUISITION TIME

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SHORTEN ACQUISITION TIME

The Time Value of Technology

The U.S. needs superior weapons to sustain a clear margin of military superiority. Sustaining this advantage depends on our ability to stay out in front by fielding new weapons with superior capability and performance well in advance of our adversaries.

Unfortunately, the time needed to acquire new weapons has increased in the past 10-20 years^{1,2}. Further, the trend continues toward further lengthening of the process.

Many now perceive that the margin of weapon superiority in terms of capability and performance is rapidly disappearing. Clearly, the U.S. must find ways to field the needed weapons faster -- and that is what this paper is all about.

The Thrust and Scope of this Paper

A number of those who have studied the weapons acquisition process agree that the various functions required are necessary. They also believe that the architecture for the process is essentially satisfactory. However, the flexibility that has been available under existing directives has not been exploited. Programs can and should be individually tailored to stress the principles of accepting risk and concurrent events when such action makes best sense.

¹Defense Science Board; Report of the Acquisition Cycle Task Force; Defense Science Board 1977 Summer Study; Office of the Under Secretary of Defense for Research and Engineering; Washington, D.C. 20331, 15 March 1978.

²Smith, G.K.; Friedman, E.T.; An Analysis of Weapon System Acquisition Intervals, Past and Present, Rand, Santa Monica, California 90406 (R-2605-DR&E/AF), November 1980.

The Defense Science Board in its 1977 Summer Study found that³:

. . . the full-scale development period (from DSARC II to DSARC III) has not significantly changed over the last 15-20 years despite the increasing complexity of our weapon systems. On the other hand, the "front end" period from initial program conception to DSARC II has increased substantially--from less than two years in the 1950's to an average of nearly five years at present. If this trend is not reversed, the Task Force suspects that an average "birth time" of perhaps six years or more must be anticipated in the years ahead, particularly if the intent and provisions of OMB Circular A-109 are not followed with the proper degree of flexibility which is allowed by this document.

The essential thrust of the ideas that follow centers on the theme that the process should be made more efficient--not eliminating important steps or functions. Further, the concepts of placing greater responsibility and accountability at the lowest organizational level that has a total view of a program is a frequent theme assumed by many of the papers.

The idea papers cover a broad range of issues including:

- Defense Objectives
- Long Range Planning
- Organization
- Management Style
- Acquisition Techniques
- Decision Process
- Budgeting
- Test Requirements

The ideas have been further divided into:

- Tier I - Significant ideas which can be implemented quickly with little disruption to the present system.
- Tier II - Ideas with good potential but require changes in public laws or more complete study to assure feasibility.
- Tier III - Good ideas that are more modest in scope--but still offer a payoff.

³Defense Science Board; 1977 Summer Summary, p. vii

The Tier I ideas are discussed in the paragraphs that follow. All of the ideas (Tiers I, II, and III) are summarized and described in the sections at the back of this paper.

Why Is the Acquisition Time Increasing?

There is no one answer. The process today is the product of:

- Lessons learned from past mistakes--either real or imagined.
- Demands for administrative reform following the publication of dramatic audit or Congressional committee reports.
- Emphasis on playing it safe and minimizing risk.
- Avoiding concurrency as a principle unto itself.
- New knowledge and better understanding of the inter-relationship of important system characteristics (e.g., testing, reliability, and maintainability, etc.).
- More timely, complete and detailed program information available at the top--leading to the temptation to tinker.
- More complex systems which require more planning at the front end.
- Increasing lead times as a consequence of a less robust industrial base.
- Relatively suppressed defense budgets in the face of demands for a wider range of military capabilities (e.g., Rapid Deployment Joint Task Force).
- Larger review staffs at all levels.
- Tendency to view programs in the immediate term (budget year) and freely change decisions to meet immediate budget goals.
- Use of groups for decision making through numerous hierarchical layers in the organization.
- No clear commitment to schedule as a primary goal.

The process used today is the consequence of a sincere desire to improve the quality of decisions and avoid mistakes. The challenge for tomorrow is to provide for all the essential safeguards, but do it faster, simpler, and yet more effectively.

Performance - Money - Time - Risk

In recent years, the control of cost has been an important goal in the management of programs. Consequently, risks have been minimized in order to eliminate the unforeseen events that can occur in a new program that drive up costs in an unpredictable way. Of the four dimensions (performance - money - time - risk), time has been the dimension most commonly allowed to vary. Consequently, programs have been taking longer and longer to bring into existence.

If schedule is to become a dominant factor in the acquisition of weapon systems, the other dimensions, performance, money, and risk, may have to vary. Obviously, the degree the other variables will change depends on: (1) how compelling the schedule is in terms of military imperatives, (2) the type and magnitude of expected risks, (3) expected availability of additional dollars and the degree that performance specifications are fixed and cannot be traded off. The amount of risk that management is willing to accept will need to be carefully understood and weighed against the disadvantages of the occasional unfavorable roll of the dice.

If for sufficient and compelling defense reasons, "time" is to become a dominant objective, the U.S. will have to develop a consensus and commitment from Congress, Director of OMB, SECDEF, JCS, and the Services toward achieving the agreed schedule. This, of course, will require an understanding and agreement on the expected risks.

The bottom line--DOD can't shorten the process alone--it will take a partnership of the Services, DOD, OMB, and the Congress.

Some Ideas That DOD Can Implement Now

A synopsis of the significant ideas which can be implemented quickly with little disruption to the present system (Tier I Ideas) follow. Summaries of Tier I, II, and III Ideas are also included in later sections of this paper.

-- Improved Planning

An improved view of what is expected of the Services in terms of military objectives could shorten the acquisition process by eliminating false starts, frequent changes in programs, and fielding programs that have marginal value to ultimate objectives. This idea envisions the Services developing an aggregate or macro view of what their Service should look like five, ten, and fifteen years down the road. The Secretary of Defense, in turn, would take the lead in developing a consensus between the JCS, the Services and the OSD for such plans.

The objective would be to achieve a larger measure of program stability by debating and establishing objectives at the front end.

This idea could be established by OSD without any change in public law. It would be formalized by establishing a planning board, which well might be the Defense Resources Board at the front end of the PPBS.

-- More Complete Initial Program Planning

The activity of program planning is an iterative process that is constantly evolving over the life of a program. This idea advocates more complete planning for individual programs to avoid delays during later phases caused by incomplete consideration of all the factors involved when launching a program.

-- Program Flexibility and Acceleration of Urgent Programs

The acquisition process can be shortened by encouraging a greater degree of flexibility in the strategy for acquiring programs.

A centerpiece of this idea is to establish criteria and ground rules for some small number of urgent programs that would be put on a fast track.

Such programs would incur a commitment on the part of the Services to assure consistent funding, proper management reserves, and a willingness to accept certain specified risks.

This technique could be established by the SECDEF with a simple policy letter. However, the criteria and the specifics involved in the commitment (e.g., funding in the future) by the Services for such fast track programs must be clearly spelled out.

-- Evolutionary System Development

A revolutionary approach to meeting a military requirement with fundamentally new and as yet untried technology can frequently offer dramatic payoffs. However, the risk is high and examples of failures are common. Frequently programs are delayed because the revolutionary or high risk technology did not materialize in time.

Therefore, an evolutionary alternative which uses a more modest approach to technology should be examined as an alternative when new programs are proposed.

The bottom line is that programs can be brought on-line to meet the threat faster if they take new technology in an incremental, step-by-step fashion.

This idea can be implemented by a policy letter published by the SECDEF directing that new programs which advocate solutions at the very frontiers of technology also provide an alternative which offers an incremental approach.

-- Major Programs Initiated at Milestone I

The acquisition process can be streamlined by eliminating Milestone O and deleting the requirement for an approved MENS prior to the study and evaluation of alternative systems. Demanding that the Services submit well-thought-out solutions and alternatives at Milestone I should be sufficient to provide adequate OSD review.

-- or alternatively --

-- Mission Element Need Statement (MENS) Relationship to PPBS

This idea proposes that the MENS should be tied to the submission of the Program Objective Memorandum (POM). A program package (fully priced by appropriation for all years in the FYDP) should be included in the Program and Budget. This idea would save time in the acquisition process by helping to streamline the review and force an OSD decision prior to the budget. The net effect of this idea is to force the tough decisions early in the Program and Budget cycle. The Services will have to show how and in what schedule resources will be committed to a proposed program. Further, OSD will have a clearer view of how a proposed program will be financed.

Early understanding and commitment will shorten the acquisition cycle through early decision on resources.

-- Acquisition Executive

Program stability can eliminate false starts and forced restructuring of programs. Keeping a program stable and maintaining predetermined schedules can ultimately save time and avoid program slips brought about by such restructuring.

Such stability can be enhanced if the defense acquisition executive would have authority over funding as well as programmatic decisions, and yet not be an advocate of any particular phase of the acquisition cycle. A single decision maker, with no allegiance to any special group in the organization, could bring together all the elements necessary to make effective decisions.

The DEPSECDEF, as the acquisition executive, could chair both the DSARC and the DRB so that need, resources, schedule, and risk can be assessed by a single decision maker with full authority and responsibility for major acquisitions.

This idea could be established by direction of the SECDEF.

-- Increased Accountability and Reduced Staff Involvement

Time can be conserved in the acquisition process by emphasizing the responsibility and accountability of the decision makers at the lowest levels of the organization where a total view of the program rests.

Intermediate staff reviews must be streamlined, combined, or eliminated altogether.

Implementation of this idea is tough. There is no definitive way to decide how much staff is enough and how much is too much. One man's good report is another man's burden. The best way to implement this idea is for the leadership at each level to take a sincere and statesmanlike approach by applying judgment as to which reviews can be eliminated with only marginal added risk. There is no formula or scientific way to arrive at a finite conclusion.

A management style by the top leadership which encourages decentralization of decisions could go a long way toward achieving the benefits of reduced micro management. Holding subordinate managers responsible and accountable for their decisions could pay off in two ways:

- (1) Streamline the decision process, and
- (2) Incur fewer cost overruns and mistakes.

Micro management, excessive control, frequent reporting, and large numbers of briefings and meetings can be exhausting to those who are charged with the responsibility of executing programs.

-- Program Stability

A commitment to maintain required funding to major programs will shorten the acquisition cycle through program management stability and more efficient production rates.

The Services, OSD, and the Congress commonly assume a near term view of the budget. Consequently, when the tough decisions are made as to which programs should be funded and the level of such funding, programs are frequently revised, adjusted, restructured, slipped, and, in some cases, deliberately underfunded.

The net effect of such action is frequent changes to programs that force fundamental changes in plans and schedules.

No one agency can solve this one. It takes an understanding and commitment from the Program Manager, Service, OSD, OMB, and the Congress.

-- Legislative Initiatives to Simplify Contracting

Strongly support existing efforts to modify restrictive legislation and initiate new legislative proposals to reduce contracting lead time.

The idea lists a number of examples which offer the promise of significant payoff. Some can be initiated with policy changes within DOD, while others require changes in the Public Law.

Some Thoughts on How to Implement the Ideas

The ideas in Tiers 2 and 3 are categorized as such not because they have lesser payoffs, but because they require more careful preparation, policy change, or revision in a public law. Those ideas are summarized in the sections to follow.

TEAM B
SHORTEN ACQUISITION TIME
SUMMARY OF IDEA PAPERS

TIER I

-- Improved Planning

An improved view of what is expected of the Services in terms of military objectives could shorten the acquisition process by eliminating false starts, frequent changes in programs, and fielding programs that have marginal value to ultimate objectives. This idea envisions the Services developing an aggregate or macro view of what their Service should look like five, ten, and fifteen years down the road. The Secretary of Defense, in turn, would take the lead in developing a consensus between the JCS, the Services and the OSD for such plans.

-- More Complete Initial Program Planning

The activity of program planning is an iterative process that is constantly evolving over the life of a program. This idea advocates more complete planning up front to avoid later delays caused by incomplete consideration of all the factors involved in launching a program.

-- Program Flexibility and Acceleration of Urgent Programs

The acquisition process can be shortened by encouraging a greater degree of flexibility in the strategy for acquiring programs.

A centerpiece of this idea is to establish criteria and ground rules for some small number of urgent programs that would be put on a fast track.

Such programs would incur a commitment on the part of the Services to assure consistent funding, proper management reserves, and a willingness to accept certain specified risks.

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Therefore, an evolutionary alternative which uses a more modest approach to technology should be examined as an alternative when new programs are proposed.

The bottom line is that programs can be brought on-line to meet the threat faster if they take new technology in an incremental, step-by-step fashion.

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The acquisition process can be streamlined by eliminating Milestone 0 and deleting the requirement for an approved MENS prior to the study and evaluation of alternative systems. Demanding that the Services submit well-thought-out solutions and alternatives at Milestone I should be sufficient to provide adequate OSD review.

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Strongly support existing efforts to modify restrictive legislation and initiate new legislative proposals to reduce contracting lead time.

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CONSENSUS RECOMMENDATIONS

IMPROVED PLANNING

An improved view of what is expected of the Services in terms of military objectives could shorten the acquisition process by eliminating false starts, frequent changes in programs, and fielding programs that have marginal value to ultimate objectives. This idea envisions the Services developing an aggregate or macro view of what their Service should look like now and five, ten, and fifteen years down the road. The Secretary of Defense, in turn, would take the lead in developing a consensus among the JCS, the Services, the OSD, and industry of such plans.

Such plans would build on the stated national security objectives. They would outline the force structure and major modernization programs in broad terms by mission areas.

Advantages: The payoff would be to achieve a larger measure of program stability by debating and establishing objectives at the front end thus avoiding lost time and effort.

Disadvantages: The tough job is keeping the plan at the macro or aggregate level and not getting caught in the trap of directing specific action on individual programs. The temptation will be to solve or lock up all the program decisions in the plan. SECDEF must resist temptation to demand program details this early. Program advocates must be brushed aside lest they argue for final decisions and thus sanctuary in the plan.

This idea was addressed as part of the Planning, Programming, and Budgeting System (PPBS) review just completed.

Action Required: SECDEF directs Services to submit a plan at the macro or aggregate level describing their force structure and investment objectives now and five, ten, and fifteen years ahead. SECDEF then directs review and comment by OMB, JCS, and OSD staffs; establishes Defense Planning Board with same membership as Defense Resources Board (DRB) to review plans and recommend guidance; SECDEF publishes guidance at the beginning of PPBS. OPR: USDR&E direct Services submit long range plan by 1 May for use in FY 83 program/budget.

Approve: _____

Idea Needs More Development: _____

I Need More Information: _____

Disapprove: _____

IMPROVED PLANNING

IDEA: Clarifying national military objectives and the strategy to achieve them will result in shorter acquisition cycles. Support of the national military strategy would become the measure of effectiveness of the materiel acquisition process.

PROBLEM: The U.S. faces a continuing mismatch not only between stated policies/objectives and current military capabilities, but also between those policies/objectives and planned longer term capabilities. The lack of a procedural link between planning and the programming and budgeting phase has resulted in piecemeal management by DOD of individual programs rather than coherent leadership toward long range objectives based upon strategic plans. An attempt by the previous USDR&E to develop an effective planning system failed because there was no SECDEF/Presidential demand for long range planning and no effective procedural link to the PPBS was developed. The result is fluctuating requirements, false program starts, frequent program changes, and no agreement on marginal values.

HOW WE DO IT NOW: The JSPD and related risk reduction measures (the planning aspects of PPBS) carry little significance in the development of Defense Planning Guidance and subsequent Service POMs and budgets. OSD guidance tends to have a near term focus and not to clarify what is expected of the Services in terms of long term military objectives. Although POMs and budgets contain five years of data, only the budget year is credibly refined; out-year data (Years 2-5) and EPA figures (Years 6-15) are "dream sheets" of unrefined numbers which never come true; hard priority decisions for Years 2-15 are never made. Thus, intelligent prioritization of the mid-range (JSPD; Years 3-10) period is always deferred, a plethora of acquisitions programs is kept barely and inefficiently alive, and the mismatch between strategy and capability is never corrected. In addition, because no higher focus exists, near-term considerations (such as unit cost) become dominant measures of acquisition process effectiveness.

RECOMMENDED CHANGE: Establish a Defense Planning Board (DPB) chaired by the DEPSECDEF to resolve strategy/objectives/planning issues developed during JSPD development. Revise PPBS cycle as follows. Each fall while the budget for FY X is being finalized, planning would be concurrently underway for FY X+1 through X+15. That planning and the decisions resulting in the FY X President's Budget would produce a list of critical issues to be resolved by the DPB during Jan-Feb prior to issuance of SECDEF Fiscal Guidance Update in March. Service POM

preparation would follow in Mar-May. The Defense Resources Board, also chaired by DEPSECDEF (insuring linkage), would assess POM submissions in Jun-Jul and the budgeting phase for FY X+1 would begin in August, as would the planning phase for FY X+2 through X+16.

EXPECTED GAINS:

- Shorter acquisition cycles due to: (1) more decisive issue resolution (better prioritization and corporate consensus); (2) firmer requirements agreed to earlier; (3) less programmatic turmoil (increased program stability; and (4) stimulation of long range RD&A planning by the Services and by the OSD.
- Improved Congressional and public relations through clear evidence of a more stable, long range approach to defense management.
- Improved internal DOD focus on debating and establishing objectives at the front end and then programming/budgeting to achieve those goals.

EXPECTED COST: Some loss of flexibility. Greater demands on the DEPSECDEF.

ACTION REQUIRED: Establish DPB, chaired by DEPSECDEF, and revise PPBS cycle to reemphasize planning phase, as described above.

MORE COMPLETE INITIAL PROGRAM PLANNING

IDEA: More effective total program planning early in the program could decrease acquisition time.

PROBLEM: Acquisition programs normally are initiated with minimal corporate commitment to the total program and its relationship to other programs throughout their useful life. This often results in modifying the requirement, revisiting previous decisions, and poor funding/schedule estimates which cause program delays and cost increases.

HOW WE DO IT NOW: When most acquisitions are initiated, the main objective is to reach the next decision point. In most cases, only short-range planning and documentation are provided to address other decisions that are just as, if not more so, important as the next milestone decisions. These decisions include the acquisition and support strategy, force implications (quantity, deployment, other force adjustments, etc.), life cycle costs, and manpower. Currently, the MENS and comparable Service level documents are validated to initiate programs but neither an acquisition/support strategy nor complete force implications, life cycle cost or manpower data is required.

RECOMMENDED CHANGE: Require that program initiation include an acquisition/support strategy, force structure implications, life cycle manpower, and life cycle cost data.

EXPECTED GAINS:

- ° More data on which to base a decision and early resolution of issues.
- ° Greater corporate commitment to the success of the total program.
- ° Less turbulence and uncertainty in acquisitions resulting in shorter acquisition time.

EXPECTED COSTS:

- ° Require more documentation to initiate a new program.
- ° Some long term cost and force projections might be highly speculative.

ACTION REQUIRED: USDR&E emphasize the requirement for acquisition and support strategy, force adjustments, manpower and life cycle costs to be part of the required documentation for program initiation.

PROGRAM FLEXIBILITY AND ACCELERATION OF URGENT PROGRAMS

IDEA: Maximum flexibility should be used to tailor program plans and schedule to account for the technical risk and the criticality of the operational need.

PROBLEM: Although OMB Circular A-109 and DOD Inst. 5000.1/.2 permit flexibility, there is a strong tendency to force all programs into the same development pattern. This leads to an unnecessarily long acquisition cycle for programs with low technical risk and an unacceptable delay for programs solving urgent operational deficiencies.

HOW WE DO IT NOW: Most development programs are put into the same pattern, and the acquisition cycle time is 10-15 years.

RECOMMENDED CHANGE: Evaluate each program in terms of technical risk (complexity and state-of-the-art advances) and urgency of operational need. Acquisition strategy and program plan would be tailored to fit situations. This would include deleting or reducing some of the acquisition steps for low technical risk programs and accelerating urgent programs by accepting more concurrency and by increasing resource commitments. To achieve an immediate improvement in shortening the acquisition cycle, the Services and OSD agencies would nominate programs for acceleration because of low technical risk or urgency.

EXPECTED GAINS:

- ° Shortened acquisition times and cost for the low risk programs.
- ° Reduced acquisition time for urgent programs.

EXPECTED COSTS: Some programs may suffer if increased resources are committed to more urgently needed programs.

ACTION REQUIRED: Initiate acceleration of urgent and low risk programs. Specific actions required:

- ° SECDEF solicits Service Secretaries for programs proposed for acceleration. Service proposals identify the following: program, reason for acceleration, necessary changes, (i.e., concurrency), required resources, expected cost/benefits/other impacts, and commitment to accelerate.
- ° SECDEF selects programs to be accelerated and seeks commitment from OMB, President, and the Congress to accelerate specific programs.

EVOLUTIONARY SYSTEM DEVELOPMENT

IDEA: Place more emphasis on making technological advances in smaller increments. This would include a greater reliance on product improvements of existing systems to provide improved mission capability. For new starts, the thrust would be to limit the amount of new technology on the first deployed version and follow up with product improvement over the expected 20-30 year system life. For higher risk technical development starts, a product improvement development would be available to develop as a competitive alternative.

PROBLEM: The usual system acquisition is characterized by development cost overruns, schedule delays, performance shortfalls, and production costs that are much higher than the original estimates. Many, if not most, of these programs would never have been initiated in their current form if the real costs were known at the start. But, by the time all of the problems are known (usually between DSARC II and III), there is no acceptable alternative; and the program is continued in spite of all of the above shortcomings.

HOW WE DO IT NOW: The most prevalent DOD approach to satisfying a mission need is to start from "scratch" with the development of a new system, often pushing the state-of-the-art in several components in the process to make the new system superior and useful for a longer period of time. This approach usually takes the form of soliciting industry for novel ideas that will satisfy the identified need. The programs initiated by this approach not only consume large portions of the defense RD&A monies, they often end up overrunning their dollar and schedule thresholds. By the time a new system is fielded, it usually ends up being much more costly and less effective than originally conceived. The current approach has no automatic correcting mechanism for handling poor performing programs because of the lack of real competition. For most programs, competition ends with the completion of the validation phase.

RECOMMENDED CHANGE: Emphasize evolutionary system development for system acquisition. An acquisition plan for obtaining an improved military capability would be created. This includes writing requirements to reflect the time dimension of the need, i.e., when different levels of performance and capability have to be provided. In starting programs to improve capability, priority should be given to product improvement of existing systems in a stepwise manner by developing new subsystems and incorporating them into the total system at various stages. If a new system development has to be initiated, the

initial design should limit the amount of new subsystem and component development. This approach should consider currently developed subsystems or subsystem hardware presently in late stages of development, combined in new and ingenious ways to do the needed job. Additional capability would be added as part of a planned product improvement program. For high risk technical developments, where a large technological advance is sought and/or most of the subsystems require new developments, a product improvement of an existing system would be made available to compete with the new system start. The competition, if selected, should continue until the initial procurement.

EXPECTED GAINS: Decreased program risk with the earlier deployment of improved system capability and fewer large cost overruns. The average program unit cost would probably be reduced. Also, fewer expensive logistic problems would be expected since most of the improved systems would be versions of existing systems.

EXPECTED COSTS: Initially deploying some new or improved systems that won't contain all of the most advanced technology.

ACTION REQUIRED:

- ° Revise the DOD Directive on Major System Acquisition Policy (DODD 5000.1) to require competition between new systems and product improvement of existing systems. Continue competition until cost, technical risk, and schedule data allow a system decision to be made with acceptable risk.
- °° Allow for and encourage the incremental development of a new system capability. (Low risk initial development and follow-on product improvement.)
- ° Direct Services to evaluate existing development programs and to provide product improvement or incremental development alternatives for high risk programs.

MAJOR PROGRAMS INITIATED AT MILESTONE I

IDEA: Submission to and approval staffing by the OSD of the MENS for major system acquisitions consume a significant amount of time prior to Milestone I without producing any real benefit. This Milestone O requirement should be deleted.

PROBLEM: The four Services initiate all basic operational requirements. These requirements must be prioritized for the allocation of funding within the allotted TOA. When a major system new start is identified in the yearly POM submission, a MENS must be submitted to OSD before funding will be apportioned. The MENS must address mission, threat, existing capabilities, need, constraints, and resources. Staffing and modification of the MENS take an inordinate amount of time and the MENS has been used by the OSD staff as a lever to force unwanted and, in the Services' opinion, unnecessary aspects (threat, "ilities," NATO RSI, etc.) to be included in the Service-initiated MENS.

HOW WE DO IT NOW: Services submit a "For Comment" MENS which is staffed in the OSD. Comments are consolidated and returned to the Services for modification and submittal as a "For Coordination" MENS. If this version includes the OSD staff desires, it is approved by SECDEF. This evolution of the MENS takes too long and precludes Service prerogatives to examine alternative concepts prior to Milestone O.

RECOMMENDED CHANGE: Eliminate Milestone O and delete the need for an OSD approved MENS prior to the study and evaluation of alternative system concepts. If desired, the OSD could be notified by a Service of the initiation of a new major system acquisition after conceptual studies indicate valid alternatives. Services should be directed to submit better plans for Milestone I (Concept Selection) than what is customary now. A well-run concept exploration phase should put the Service into a position to present a complete Requirements Justification at Milestone I for each alternative system concept proposed. This documentation should include Development Plan, Test Plan, Acquisition Plan, and ILS Plan suitable for a SECDEF decision to proceed into hardware development and for reaching IOC at a specified point in time. Where only one concept is proposed, the Service should be prepared to discuss alternative concepts considered and reasons for discarding them. SECDEF would be requested to validate the Service choice at Milestone I rather than to select concept(s) from a range of alternatives for demonstration and validation.

EXPECTED GAINS: Services would present new major system acquisition plans to OSD for a ratification decision after full consideration of balanced needs within TOA portion allotted to the program. This will reduce lead time at the front end by eliminating the OSD staffing of a MENS, false starts, and consideration of marginal options.

EXPECTED COSTS: Services would be forced to do more complete early inter-Service staffing of basic operational requirements. Services would also be forced to have better plans and an earlier commitment to fund programs through IOC when SECDEF ratifies the Service selected concept(s) at Milestone I.

ACTION REQUIRED:

- ° Combine paragraphs 9.a. and 9.b. in OMB Circular A-109 into a single decision point. Identification and definition of a specific need to be fulfilled as well as assignment of a relative priority within the agency would thus be combined with the selection of alternative design concepts at Milestone I.
- ° Change DODD 5000.1 to delete Milestone O--MENS Approval and Authorization to Commence Concept Exploration. Change DODI 5000.2 to eliminate the OSD staffing of a MENS and to provide for a notification to OSD of a major system new start with a MENS-like document.

MISSION ELEMENT NEED STATEMENT RELATIONSHIP TO PPBS

IDEA: Mission Element Need Statements (MENS) submission should be tied to POM submission to streamline review and force OSD decision prior to budget submission.

PROBLEM: The requirement for a mission need description stems from a recommendation by the Commission on Government Procurement in 1972 to limit premature system commitments and to retain system-level competition. This recommendation was included in OMB Circular A-109 in 1976 by the requirement for agency heads to make the definition of a specific mission need and its relative priority within the agency one of four key decisions in the acquisition of major systems. This was intended to include consideration of the degree of mission capability enhancement provided by a new system along with consideration of its price. In 1977, DOD included the requirement for a MENS in DODD 5000.1 to provide the documentation on which SECDEF would base a major system acquisition program initiation decision. In subsequent revisions of DODD 5000.1, MENS requirements were adjusted, but no basic changes were made. A problem arises in that the MENS is not directly linked to POM submissions and therefore it is possible to include funding in the POM for a major system new start before a MENS is submitted or to submit a MENS without having identified funds in the POM for development and production of the new system.

HOW WE DO IT NOW: A MENS is the output of continuing mission area analyses. When a deficiency in or an opportunity for improved mission capability is identified, the Services initiate a MENS and submit it for comment to the Defense Acquisition Executive (DAE), if the cost for the new system is estimated to exceed \$100 million for R&D and/or \$500 million for production. Comments on the MENS are returned and a "For Coordination" MENS is requested if the DAE determines that the system is likely to be designated "major." Approval of the MENS by SECDEF constitutes designation as a "major" system, concurrence with the mission need as described in the MENS, and authorization for the Services to begin concept exploration. Since a MENS may be submitted at any time during the year, there is no great pressure to submit it, or to review it in a timely fashion (even though the MENS is required to be submitted not later than the POM submission wherein the major system new start is identified).

RECOMMENDED CHANGE: Tie the MENS review to the POM and budget processes to force timely decisions.

EXPECTED GAINS: Services would have to submit a MENS when funding is identified for a potential major system new start. CSD would have to conduct a more prompt review. If a MENS is not either returned to the Service as non-major or funds to support it are included in the budget, the need identified in the MENS is automatically eliminated when the budget is submitted. This would bring about a more orderly and systematic identification of major system new starts while retaining the OMB policies for a SECDEF concurrence with the need and broad-based consideration of alternative design concepts. (It was the perceived absence of the latter which gave rise to the MENS requirements in the first place.)

EXPECTED COSTS: Services could not use the MENS as a lever to obtain funds since they would have to identify funding in the POM. Although limited to five pages, the MENS includes more information than what would be in a POM submission (e.g., threat statement). Users of this information would object. A MENS would have to be evaluated in the press of other POM business. Flexibility in timing the MENS submission is lost.

ACTION REQUIRED: Change DODI 5000.2 and POM submission instructions to provide for submission of the MENS with the POM.

ACQUISITION EXECUTIVE

IDEA: The Defense Acquisition Executive (DAE) should have authority over funding as well as programmatic decisions and should not be an advocate for any particular phase of the acquisition cycle.

PROBLEM: A substantial portion of the annual DOD budget is allocated to R&D and Procurement. Investment decisions made in these two areas drive manpower and support costs for years, and sometimes decades, into the future. A single decision maker, with appropriate authority over both program and funding actions and no allegiance to any special interest group in the organization, should be identified to bring together considerations of need, resources, schedule, and risk in order to make acquisition decisions. At present, decision making is fragmented, slow, and sometimes contradictory because of the separation of the PPBS and DSARC processes.

HOW WE DO IT NOW:

USDR&E is currently designated the DAE. While he is one member of the DRB, his area of cognizance is new investment in development and production of systems. (Within the Services, there is even a further fragmentation in that there are as many as three different acquisition executives in one Service.) Review of the programmatic aspects of system acquisition in the DSARC process is not tied directly to the PPBS which includes all other defense costs (such as personnel, training, etc.).

The DSARC and the PPBS process do not complement each other. There are not enough resources to efficiently fund all development, production, and maintenance programs desired by the Services. Each year funds are budgeted and later apportioned in the PPBS process on the basis of priorities and needs as perceived at that time. The instability introduced by this reordering of priorities brings about gross inefficiencies in the acquisition process. For example, a DSARC can recommend that a new program is ready to pass Milestone III and transition into production. A few months later, funds for the program are cut in the PPBS process and the quantity and/or production rate is reduced. Unit costs are affected in non-linear fashion due to impact of fixed costs.

RECOMMENDED CHANGE: Establish the DEPSECDEF as Defense Acquisition Executive to chair both the DSARC and the DRB so that need, resources, schedule, and risk can be assessed by a single decision maker with full authority and responsibility for major acquisitions. Support would be provided by the OJCS and appropriate OUSD and OASD elements so that decisions are made in conjunction with strategic, long range planning. This streamlining of decision making would also serve as a model for the Services.

EXPECTED GAINS: Single decision maker who has appropriate advisors from specialty areas (e.g., T&E, business aspects, user needs, etc.), but who also has the broader view of defense expenditures in the aggregate and who has authority to make final decision on all aspects of a given acquisition program. This will greatly enhance program stability and shorten acquisition time.

EXPECTED COSTS: Some loss of "flexibility" desired by many players in the acquisition effort.

ACTION REQUIRED: SECDEF designate DEPSECDEF as Acquisition Executive.

INCREASED ACCOUNTABILITY AND REDUCED STAFF INVOLVEMENT

IDEA: Improve the acquisition process by increasing management accountability and by limiting the staff involvement.

PROBLEM: In an acquisition program, there is only one "doer:" the Program Manager (PM). All others serve an overhead function, either in support or oversight. Both categories can adversely affect the execution of the program through well-meaning but undisciplined activities by placing enormous demands on the PM's time for information that ultimately detracts from program execution. Further, staff involvement is a work-generating phenomenon which adds to the papers and persons involved. The proliferation of staff involvement and management layering is contrary to explicit statements in the current acquisition policy documents (e.g., OMB Circular A-109 and DODD 5000.1) and has created a situation where authority and responsibility are diffused and uncertain. In this situation, PMs and others are often not held accountable for their actions.

HOW WE DO IT NOW: Staffs and upper management involvement have proliferated, in part, because of our concern that we don't make the same mistake twice, i.e., rather than accept risk as an inevitable fact in system acquisition, we choose to reduce that risk by establishing ad hoc staffs and many management reviews to oversee the programs. Duplicate staffing, briefings, periodic reports, and staff assistance visits are some of the predictable consequences of this type of environment--all with the good intention of keeping the supporting staffs abreast of program status. The size and number of these staffs will continue to grow as long as we discover new problems on specific programs.

RECOMMENDED CHANGE: Increase PM's accountability and reduce staff demands. Reduce the size of the hierarchical levels concerned with program management between the PM and the program decision authority. Restrict the active involvement of the decision authority's staff to program milestone points with emphasis on allocation of resources, while keeping the staff apprised of program status between milestones. Reduce the number of staff personnel and make these personnel available to support the PM in the program office. Emphasize a managerial style of leadership which stresses responsibility of the line organization (where the buck stops) and expertise of the staff which advises the line manager without assuming either his authority or responsibility for the decisions. The objective is to focus on attainment of goals and accountability.

EXPECTED GAINS:

- Much less micro management.
- Shortened acquisition time because the PM can concentrate more on managing his program.
- Shortened decision time and less paperwork.

EXPECTED COSTS: Possibility of increased risk that some details will be overlooked.

ACTION REQUIRED:

- SECDEF policy letter stressing accountability and limiting staff involvement.
- Follow-up actions by OUSDR&E(AP) to monitor implementation of the new policy.

PROGRAM STABILITY

IDEA: A commitment to maintain required funding for major programs will shorten the acquisition cycle through program management stability and efficient production rates.

PROBLEM: The funds available for the budget are insufficient to carry out the program plans that have been approved in either the current or prior years. As a result, program plans undergo revisions (sometimes drastic) annually during the POM/Budget cycle. This instability causes inefficiency in government and contractor management, renegotiation of contracts, and increases in cost and schedule. Also, the Congress believes there is a lack of integrity in our testimony.

HOW WE DO IT NOW: First, the fiscal guidance to the Services has been overly optimistic in the outyears. Second, the Service estimates to conduct programs have been low because of "keep it low to get the contract" type of bids/negotiations, failure of the Services to plan for the full spectrum of program requirements, and inflation. An example is the approximately \$50B cost increase in the recent SAR submittals of 47 programs. This mismatch, coupled with "new requirements" and changes in policy, caused programs to be "robbed" or stretched. Services attempt to get programs started and hope for a bigger budget in the future.

RECOMMENDED CHANGE: Make fiscal guidance the Premier Policy Decision of the SECDEF to reduce program turmoil. Create a reserve in the development and investment appropriations in the outyears (by Service) to absorb the program cost growth which, by experience, we know will occur. Budget increments and priorities should focus on fully funded programs at the lower budget levels and adding programs at the higher levels vice just adding more funds to several underfunded programs when the budget level is increased.

EXPECTED GAINS: Less drastic revisions to programs and more "fine tuning." More Service emphasis on controlling cost if outyear reserve is adjusted for current year performance and if unused reserve remains with a Service.

EXPECTED COSTS: Fewer programs will be initiated.

ACTION REQUIRED: The DRB, with SECDEF approval, should:

- ° Establish firm fiscal guidance that is consistent with the expected DOD share of the federal budget.

- ° Establish a reserve by Service (based on Service management performance) in the outyear development and investment appropriations so that program cost growth can be absorbed without stretching programs.
- ° Not allow initiation of programs that will not fit in the outyear adjusted funding profile (expected funding less reserve).
- ° Reward a Service for good management by allowing each Service to budget its own unneeded reserve.
- ° Direct the Services to focus POM and budget preparation on adding programs at higher funding levels vice placing a large number of underfunded programs in the lower levels and then adding more programs at the higher funding levels.

LEGISLATIVE INITIATIVES TO SIMPLIFY CONTRACTING

IDEA: Support/sponsor legislation designed to unburden the contracting process in the Department of Defense.

PROBLEM: There are a variety of laws which are contributing to the increasing amount of time and effort necessary to place and administer contracts for weapons systems. With each Congress, the burden on the acquisition process increases. Many of these laws contain dollar thresholds which have become unrealistically low as a result of inflation. Additionally, many of these requirements discourage industry from selling to the Government because of reporting requirements, disclosure of management information and other proprietary data, and requirements purely ancillary to the contract.

HOW WE DO IT NOW: Many of our existing laws contain unrealistic dollar thresholds due to passage of time coupled with inflation.

RECOMMENDED CHANGE: Examples of changes which should be made include the following:

- ° Raise the RDT&E D&F threshold from \$100K to \$1 million. (Existing DOD Initiative.)
- ° Raise the threshold for submission of Certified Cost and Pricing Data from \$100K to \$500K. P.L. 87-653. (Existing DOD Initiative.)
- ° Raise the thresholds for applicability of the Services Contract Act from \$2.5K to \$25K and the Davis Bacon Act from \$2K to \$25K.
- ° Amend the Vinson-Trammell Act (H.R. 5433 and S. 7331) to eliminate unrealistically low profit limitations.
- ° Place a moratorium on imposing additional socio-economic legislation on defense contracting and conduct an in-depth review of existing requirements to determine their necessity for continuation, i.e., 95-507, Buy American, Walsh-Healy, etc.

EXPECTED GAINS:

- ° Increased productivity.

- ° A reduction of contracting lead time.
- ° Reduced costs.
- ° Increased competition at both the prime and subcontract level.

EXPECTED COSTS:

- ° On dollar thresholds: None.
- ° On socio-economic legislation: Congress would have to agree not to use Government contracts as vehicles to enforce socio-economic policies in addition to the primary objective of acquiring goods and services for defense.

ACTION REQUIRED:

- ° Task Services to provide other proposals in addition to the above examples.
- ° Strongly support existing efforts to modify legislation and initiate new legislative proposals where necessary.

TEAM B
SHORTEN ACQUISITION TIME
SUMMARY OF IDEA PAPERS

TIER II

- Financial Flexibility

Explicitly recognize the financial risks involved in development and early production by expanding the use of risk based on financial reserves (management reserves) and by raising Congressional reprogramming thresholds to more useful levels.

- Earlier User Participation

Shorten acquisition time by requiring user participation at each step in the process from program inception to assure that the operational concept is valid, system specifications meet user requirements, and that development testing is structured toward user (average operator) needs.

- More Test Articles

Developers should acquire an adequate number of engineering development test articles. Procurement of too few test articles forces a "heel-to-toe approach" whereby the available test articles are dedicated to development testing. Consequently, operational testing cannot be accomplished concurrently (within acceptable levels of risk). Operational testing must be accomplished on articles that are still available after development testing is finished and before initial or limited production models become available.

This idea represents a policy or principle that must be applied when the program and budgets are reviewed.

FINANCIAL FLEXIBILITY

IDEA: Provide more program stability through the use of financial management reserves and through higher reprogramming thresholds.

PROBLEM: Project Managers and Service Secretaries are usually unable to respond in a timely manner to financial management problems because: (1) budget estimates are based upon the assumption of success in each task, and (2) reprogramming thresholds are limited to \$2 million in development and \$5 million in procurement.

HOW WE DO IT NOW:

There is no general rule governing financial management reserves across the Services. Generally speaking, other program setbacks are met by delaying the funding of the least pressing tasks (frequently logistical readiness items) or by reducing delivery quantities. However, the Army, in its RDT&E appropriation, uses a method of cost estimation called TRACE which relates the inherent risks of development efforts to the estimated project cost. TRACE is a method of cost estimation under uncertainty in which the risks of setbacks are realistically accounted for and budgeted.

Although first procurement efforts also contain uncertainties involving the risks in the transition from development to production, as a rule, no financial reserves are provided for in procurement appropriations.

Reprogramming actions must be submitted to Congress for funding increases exceeding \$2 million in development and \$5 million in procurement. Due to Congressional interest in most major programs, it takes six months or more to receive approval on these actions.

RECOMMENDATIONS:

Expand the use of the TRACE concept from the Army to all Services and from only RDT&E to both RDT&E and first production contracts so that a budget reserve is available to address uncertainties.

Raise reprogramming thresholds to give the Service Secretaries greater latitude to manage programs through reprogramming funds.

EXPECTED GAINS: Increased ability, at both program and appropriation levels, to account for and manage the risks and uncertainties of development and early production. Thus, increased program stability and shorter acquisition time should result.

EXPECTED COSTS:

- ° Providing a financial reserve to some programs means others must lose funds.
- ° Risk estimates are by nature subjective and open to debate, making such financial reserves vulnerable to Congressional cuts.

ACTIONS REQUIRED:

- ° Establish financial management reserves using the TRACE method as a DOD practice for both RDT&E and first production budgets and contracts.
- ° Raise reprogramming thresholds to 5 percent of annual line item cost not to exceed \$25 million nor be less than present reprogramming limitations.

EARLIER USER PARTICIPATION IN DEVELOPMENT AND TESTING

IDEA: Shorten acquisition time by requiring intense user participation at program inception to assure that the operational concept is valid, system specifications meet user requirements and that development testing is structured toward user (average operator) needs.

PROBLEM: The Service user's involvement in the system's development is too late or insufficient to ensure that operational needs and constraints are fully incorporated into the hardware and software design and testing. The result is often a system design that is deployed late and does not perform as well as planned. This is especially true for system concepts that require a higher level of operator performance than was required in the system being replaced or augmented. The problems are often not spotted in the early testing because development testing is conducted in too much of a "laboratory environment" that is not a fair representation of real world conditions (i.e., operator, climate, stresses on systems, etc.).

HOW WE DO IT NOW: Development testing is primarily concerned with verifying the specific extremes of system performance, and significant user participation does not usually occur until Operational Testing (OT) II. Sometimes the specifications are found to be too high or unrealistic. Also, most of the testing is done by the best operators and service technicians. The ability of the average service personnel to operate the system is not fully tested until Follow-on Operational Test and Evaluation (FOT&E).

RECOMMENDED CHANGES: Institute a strong Service user presence at program inception to insure that the system design fully incorporates operational needs. Require that operational concept issues be resolved by early operational concept validation tests before the technical design approach is finalized. Require the user to validate and keep operational requirements current, including a description of the operational conditions and environments in which the system must perform.

EXPECTED GAINS:

- Earlier deployment of systems that can be operated effectively by average service personnel.

- ° Minimization of system concepts that do not meet user needs.
- ° Lower total acquisition cost by solving technical problems early in the development.
- ° Improved working relations between user and development communities.

EXPECTED COSTS:

- ° Higher development costs for the first phases of the acquisition process to cover extra testing and user participation.
- ° More user personnel time that must be committed to the program.
- ° Possible incorporation of excessive user requirements and "nice-to-have" features.

ACTIONS REQUIRED:

- ° USDR&E direct revision of acquisition policies and procedures to require earlier user involvement. Specify that concept validation include an operational concept validation by the user.
- ° Services revise their acquisition regulations to require timely, sufficient, user participation in planning, development, and testing of system.

MORE TEST ARTICLES

IDEA: Developers should acquire an adequate number of engineering development test articles to facilitate timely completion of testing.

PROBLEM: Developing Testing (DT) is conducted to verify the achievement of technical specifications and objectives. Operational Testing (OT) is conducted to assess the system's performance and suitability in the operational environment. In order to shorten the acquisition cycle, some concurrency in DT and OT should be encouraged. However, test article acquisition is usually low in priority within a program development effort, and, consequently, too few test articles are acquired to allow concurrency in testing.

HOW WE DO IT NOW: Although some concurrency in DT and OT is possible at acceptable levels of risk, it is often precluded by the lack of an adequate number of test articles. Too few assets procured force a "heel-to-toe" approach whereby the available test articles are dedicated to DT, and OT has to be conducted on those that are still available after DT is finished plus initial or limited production models. The problem is exacerbated if catastrophic losses occur in either DT or OT. The expense of a system is sometimes used as a justification for limiting the number of test articles. This could be false economy because a stretched out production schedule will usually cost far more, to say nothing of the impact on military readiness.

RECOMMENDED CHANGES: At DSARC II, a decision should be made to procure a specific number of development models for both the DT and OT test community. OT use of DT information should be encouraged whenever possible.

EXPECTED GAIN: A shorter testing schedule and earlier identification of operational problems which would further shorten development and/or low rate production time by allowing corrections to be made early.

EXPECTED COST: Increased requirement for up front RDT&E funding. Some additional risk that Initial Operational Test and Evaluation (IOT&E) is conducted on test articles which are not in all respects identical with the final production configuration because of changes incorporated after the tests.

ACTION REQUIRED: Services include sufficient funds in the POM to procure a specific number of test articles in the engineering development contract adequate for both DT and OT tests to be conducted during development. The TEMP, in coordination with DSARC II, would be used as a check point to verify adequacy of numbers and availability of funds.

TEAM B
SHORTEN ACQUISITION TIME
SUMMARY OF IDEA PAPERS

TIER III

- Limit Number of Systems Designated as "Major" by SECDEF

OSD retain for management only a very limited number of "major systems" to further decentralize systems acquisition management and save time in the acquisition process. This idea proposes that OSD would retain only those programs which are joint Service or of major national significance.

- Adequate Front End Funding for Subsystem Design and Test

Emphasize early development efforts to obtain reliable equipment by using tested quality components, conservative design, and intensive design reviews. This moves the test-fix process up front rather than into an agonizing long period at the Engineering Development-Production interface.

- Stabilize Funding for Weapon System Support

Stabilize weapon support funding by creating a separate budget line item for weapon system support costs in order to reduce opportunities for echelons above the project manager to defer and descope weapon support efforts.

- Economic Production Rates

Decrease costs and time to deploy systems by establishing and sustaining economic rates of production. This idea requires a commitment on the part of the Services. The idea can be established by making economic production rates a special topic during program and budget review. If the Services have not selected economic rates, they must explain why.

LIMIT NUMBER OF SYSTEMS DESIGNATED AS "MAJOR" BY SECDEF

IDEA: Retain for OSD management and review only those programs which are Joint Service, or of such special interest they require Secretary of Defense guidance and review.

PROBLEM: Since 1961 new layers of management above the program managers have been added by both the Services and OSD. These layers perform their function of evaluation and approval by requiring detailed briefings and large amounts of information to be prepared and presented through the many levels. Program managers are spending increasing amounts of their time satisfying requests for this detailed information with corresponding reductions in time left for them to manage their programs.

HOW WE DO IT NOW: Many programs are being reviewed at higher levels than necessary. Many programs are unnecessarily being micro managed.

RECOMMENDED CHANGE: Delegate to the Services the responsibility for managing the acquisition of the weapons used by that Service. Retain for OSD management only those limited number of weapons systems which need to be coordinated because they cross Service lines or are of such special interest they require Secretary of Defense guidance and review.

EXPECTED GAINS: More decentralized management, resulting in reduced time to acquire and field new weapons.

EXPECTED COSTS: Management and review of fewer acquisition programs at the OSD level reduced.

ACTION REQUIRED: USDR&E direct revision of existing policy to further limit the number of major systems that will be retained by OSD for management control.

ADEQUATE FRONT END FUNDING FOR SUBSYSTEM DESIGN AND TEST

IDEA: Increase emphasis on front end design and subsystem test to get equipment that is designed initially to be reliable..

PROBLEM: Experience shows that system reliability is unlikely to improve substantially over that which is demonstrated during development. There have been DSARC decisions which allowed initial, low rate production for such systems at PATRIOT, F-15, XM-1, and ALCM even though demonstrated reliability was in some cases less than 40 percent of the objective. This approach provides for "fixes" to be incorporated during initial or limited production but does not result in earlier operational capability.

HOW WE DO IT NOW: Reliability is considered during initial design, but it is not given adequate emphasis. The approach is to fix it during development test rather than ensure that it is sufficiently considered during initial design.

RECOMMENDED CHANGE: Require very conservative design, use of tested quality components and intensive design reviews. Perform stress tests of subsystems in environmental chambers to find and verify fixes early in the acquisition cycle. NASA uses this approach with space equipment.

EXPECTED GAINS:

- ° Reduced total system development time.
- ° Increased reliability, maintainability and readiness.
- ° Decreased life cycle support costs.

EXPECTED COSTS: A 5-10 percent increase in the early unit production cost of an end item.

ACTION REQUIRED: Services establish policy and provide Project Manager with necessary funding to accomplish subsystem design, test, redesign, and retest efforts earlier in the acquisition cycle.

STABILIZE FUNDING FOR WEAPONS SYSTEM SUPPORT

IDEA: Stabilize weapon support funding by reducing opportunities for management levels above the Project Manager to defer and descope weapon support work efforts.

PROBLEM: Due to a lack of funds for weapon support efforts, Services are presenting programs for production decisions with inadequate data on weapon system supportability. This often results in expensive "fixes," and increased life cycle support costs.

HOW WE DO IT NOW: Support funds are often reprogrammed by Project Managers in an attempt to meet program funding cuts or as a result of unanticipated program cost growth. A current example is the Army's DIVAD Gun System, which is scheduled for a production decision in September 1981; it has no maintenance concept, maintenance test sets, or manuals.

RECOMMENDED CHANGE: The budget estimates for support equipment should be budgeted in a separate line item from the budget line item set aside for the basic hardware itself.

EXPECTED GAINS:

- Systems deployed earlier.
- Easier transition from development to production.
- Improved readiness/availability of fielded systems.

EXPECTED COSTS: Decreased flexibility to move money from support to hardware effort.

ACTION REQUIRED: ASD(C) issue a budget policy guidance letter directing a separate budget line item for weapon system support costs.

ECONOMIC PRODUCTION RATES

IDEA: Pursuing a general policy of producing systems at economic production rates would save acquisition time and costs.

PROBLEM: Funding is not adequate to support a large number of systems at either economic or maximum production rates.

HOW WE DO IT NOW: Numerous systems are funded at low rates of production in order to stay within budget constraints, keep a warm production base, or avoid large out-year modification programs for unit attrition.

RECOMMENDED CHANGE: As a matter of policy, procure systems at economic production rates. Program sufficient funds to execute this policy.

EXPECTED GAINS:

- ° More rapid acquisition of new systems.
- ° Lower cost to field systems.
- ° Expanded inventory of attrition units which will serve as replacements for combat losses in wartime.

EXPECTED COSTS:

- ° Stockpiled attrition units will require modification programs to keep technology current.
- ° Possible loss of some industry production base.
- ° Adverse political/economic reaction to closing down some production lines.

ACTION REQUIRED: SECDEF direct the Services to submit budget plans based on economic procurement rates. Require the Services to justify deviations.

TEAM B PLAYERS

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TEAM C

IMPROVING WEAPON SYSTEM SUPPORT
AND READINESS

Defense Acquisition Process
Working Group

28 March 1981

IMPROVING WEAPON SYSTEM SUPPORT AND READINESS

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28 March 1981

TEAM C
IMPROVING WEAPON SYSTEM SUPPORT
AND READINESS

Introduction

The major objective of an acquisition program is to develop a weapon system which can be placed in the hands of trained personnel, can be operated and can be maintained in an effective manner, i.e., the system should have high effectiveness, readiness and supportability. All this to be achieved in time to meet the threat and at an acceptable cost.

The whole process of bringing a weapon system into the field with all the needed support is fraught with the possibility for problems and error. If either the hardware reliability or maintenance design objectives are not met, the support elements not designed to match the hardware, or shortages of required spares equipment or personnel occur, readiness problems will result. Although early problems resulting from inadequate support can be often corrected, inherent problems in hardware design are more difficult to work out. Thus some systems which are not reliable or readily repairable may remain problems throughout their life.

This paper discusses policies and proposed initiatives to improve the inherent readiness capabilities of the weapons we develop; reduction of risk in fast (concurrent) programs; means of more effective logistic planning; and measures to give the program manager more responsibility and flexibility to manage the readiness and support related features of his program.

I. Background and Recent Policies

In the latter half of the 1970's, readiness of our forces became a major DoD issue. Readiness problems resulted from a number of factors which included shortages of skilled personnel, spares, support equipment. Many of the current problems are attributed to the need to support more complex equipment which fails often, is difficult and costly to repair, has expensive spares, and has often required extensive changes once in the field. During the past four years Congress has focused attention on the issue of whether our acquisition programs and design efforts were placing sufficient priority on not increasing already serious support problems. A major issue is whether DoD wants to take on the challenge to make a substantial improvement in the designed-in capability for high readiness of our next generation forces.

When we have in the past placed high priority on these areas, we have done well. However, now the stakes are high enough in terms of high support costs, manpower skills shortages, and need to modernize to suggest that a major and broadly based initiative is warranted.

Recent Policies

As a result of the many problems with weapon support, the recent revision of acquisition policies included a major emphasis on approaches to dealing with support issues. These policies include increased management priority, up-front design emphasis, phased approaches to planning, development, and testing of support. Major objectives of the policies are:

- to gain emphasis at the start of each program and funds applied to design-in the reliability and maintenance characteristics needed for the hardware to be supportable by DoD service personnel
- to plan the support concept to be effective and least costly
- to fix hardware and support problems prior to significant production commitment
- to set and achieve readiness objectives by managing the hardware, logistics, and manpower as a unit

I. Need for An Initiative for Improving Readiness

There is a consensus that these recent policies as they apply to weapon support are sound and should be implemented. They are not directly influenced by the major acquisition process options presently under consideration. The up-front design efforts and improved management approaches need to be undertaken under any option. Even though the policies may advocate the needed approaches, to secure the needed results will require a major commitment of the new administration. The need for this specific commitment results from the competition for attention, funds, talent between such often conflicting objectives as more performance, lower cost, shorter schedules, and better reliability and maintenance features.

Recommendation

A major recommendation is that improvement in designed-in readiness of our weapons be adopted as a major initiative of the acquisition area for the new administration.

The above can be adopted in conjunction with the objective of shortening the acquisition cycle. For some programs there will be conscious choices needed of the extent to which to push one or the other; however they have a strong common stream if the end objective is to shorten the time to get equipment in the hands of the troops and at useful readiness levels.

One possibility, not evaluated by the group, would be to select some number of new developments by this administration for which a substantial improvement in readiness over current generations is a dominant objective and to focus DoD talent and resources accordingly. } ←

Implementation: SecDef policy memo drafted by MRA&L within 60 days.

III. Reducing Risk

The objective of shortening the acquisition cycle has been implemented often by initiating production prior to completion of development and associated field tests. This imposes risk to the extent that the design features which affect support will not have been tested under realistic conditions prior to freezing the production design - particularly for high rate production. Recommendations to reduce the risks include:

- Making a conscious decision to balance the risk through consideration of different approaches - i.e., degrees of concurrency
 - Earlier design funds and priority to minimize the need for subsequent changes
 - Establishing and defending funds to fix the early problems
 - Use of off-the-shelf subsystems and support technology
- } ←

The current planning processes and OMB and congressional reviewers do not consistently generate approaches with the needed up-front resources or subsequent funds to fix the problems on early production models. Thus the recommendations are: to develop for each program a planned strategy for early design and logistic emphasis; to develop guidelines for use by the program managers (but not restrictive); to advocate more use of contractor incentives to reduce risk; and to put more technology on-the-shelf. Recommendations are as follows: } ←

Earlier Design Emphasis and Resources To Be Planned for Concurrent Programs

At the time of program commitment, the acquisition strategy submitted to the Secretary of Defense* should include and evaluate approaches to reduce risk in the readiness and support areas.

*Or whatever early planning documents and decision process are adopted.

This plan should specifically include an option which goes as far as possible in minimizing the risk of readiness problems resulting from either design or support planning for a concurrent development option.

Items to be addressed include: risks; up-front funding for support related features; expected readiness and support characteristics at early fielding dates; additional test articles; additional manpower required for program management; interim contractor support requirements.

Implementation: The implementation can be in the form of supplemental guidelines to DoD Directive 5000.2. The acquisition strategy is an existing vehicle. Action: MRA&L prepare and send to USDRE(AP) for issuance within 90 days.

(Priority high; implementation - near term)

Weapon Support Development Guidelines (Addenda)

Many of the current Service weapon program and logistic practices are not matched to shortened acquisition cycles. To mitigate these problems and to aid the Program Manager (not restrict him):

- An addendum should be developed to the current acquisition policies which outlines weapon support development and planning guidelines for concurrent programs. These guidelines would include the development of increased front-end funding profiles; contractor support approaches to meet initial fielding commitments; plans to complete development of logistics (including manuals, training, test equipment and approaches to verifying these); and funding guidelines to support fixes of reliability and maintainability (R&M) problems discovered on low rate production models. This maturation concept (pre-planned) would allow production decisions to be made in compressed programs upon attainment of interim R&M goals. The net effect should be earlier IOC, less expensive retrofits for prime hardware and support equipment.

Implementation: MRA&L prepare letter to task the Services to develop guidelines and to submit these within 90 days.

(Priority high; implementation - near term)

Contractor Incentives

Industry has said that even though there is recently more attention paid to "support" in our solicitations, there is a widespread belief that performance and schedule are our principal objectives. The importance of industry applying their design talents on support requires revision of acquisition policy and/or SecDef memo to require that:

- Acquisition strategies should identify the approaches to incentivize attainment of R&M goals and reduced manpower and skill levels. These should include the approach taken in the RFP, evaluation, as well as specific awards, incentives, and guarantees.
- The Services should develop greater expertise in support-related incentives through analysis of experience gained on DoD programs.

Implementation: USDRE(AP) task the Services to include an approach to reliability and support improvement incentives in each acquisition strategy, and further to evaluate current experience and submit an appraisal in a year.

(Priority high; implementation - near term)

Off-the-Shelf Technology Application

A major problem in running fast acquisition programs is the long lead time to fully develop and test complex subsystems (such as radars, support equipment, displays, inertial navigation systems). Additionally, there is rarely time to fully develop the support approaches or to experiment on either hardware or manpower simplifications. Thus the following are recommended to allow shortening the acquisition cycle with less support risk:

- USDRE to direct each Service to propose a group of candidate subsystems for development independent of weapon system with applications to forthcoming weapons and which will emphasize improved reliability.
- USDRE support an initiative for research and development for improved weapon support to develop technologies and demonstrate these with the objectives of simplifying maintenance and support.

(Priority high, implementation - near term)

IV. Efficiencies in the Logistic Planning Process

Discussed in this section are several avenues to generally improving the logistic and weapon planning processes to obtain more effective use of our dollars. These include both in-house improvements as well as the way we use contractors.

More Efficient and Improved Logistic Planning

There are a number of "efficiencies" which have potential to get more for our support resources and thus improve readiness. Some examples follow.

SecDef should direct the Services to establish procedures which would:

- Give the program manager more responsibility to fund and acquire spares to activate new units.
- Give PM the flexibility and require that he determine the most economical means to contract for spares to balance readiness objectives with risk.
- Make the project manager responsible for funding interim contractor support and encourage that the support be priced under competitive conditions.

Implementation: This is to be followed up under a broader issue of PM responsibilities (pg C-7).

(Priority medium, implementation; approach to be worked out)

Use of Industrial Maintenance Capability

Industry has proposed increased use of contractor maintenance. Their belief is, even though faced with manpower shortages and increasing complexity, DoD policies are inherently not receptive to substantially more use of industry maintenance. Industry proposes that DoD change its policies to reflect more contractor support through requiring that in-house support be justified; to encourage contractor repair warranties over the life of the equipment; and to permit contractor maintenance at all levels on low volume, high complexity systems where economies dictate.

- DoD policies are in place which emphasize use of industry maintenance capability. Current policies, including OMB Circular A-76 required that for workloads not justified for in-house performance for national defense reasons, there be an economic justification of in-house maintenance decisions. The mix of in-house and contractor depot maintenance support is today about 70%/30% respectively.
- The lack of skilled maintenance manpower at repair facilities below depot level has caused the Services to increase use of contractor support at intermediate repair facilities and to increase interim contractor maintenance and support for new program systems.
- Wartime risk would be increased and deployment flexibility would be impaired by continued, increasing reliance on contractor support. (Nonetheless this reliance is going to increase because of Service manpower shortages.)

There is a consensus that DoD policies which emphasize use of industry maintenance are sound and the maintenance mix about right. There was no clear consensus on how the industry proposals should be pursued. One option would be to task the Services to identify the systems most suitable for contractor maintenance on a long term basis and establish a pilot program to gain confidence in continuity of support.

(Priority medium; implementation mid term)

Post Production Decision Product Improvement and Support

Currently some Services have no institutionalized procedures to follow-up on fielded systems to identify major R&M and support modifications. This is an area of great potential for reducing costs through useful life extension and support improvements. SecDef should direct the Services to:

- Assign clear responsibility for management of system improvement throughout the life.
- Establish a Service review point after initial fielding at which experience would be assessed and deliberate planning for hardware and support improvement would be initiated.
- Increase Service R&D and procurement funding for the development of improvement package(s)

(Priority high; implementation - long term)

V. PM Responsibility

Readiness and Support

Establish relevant readiness objectives for each program including a definition of delivered capability at early fielding.

Implementation is central to providing the program manager more flexibility in the support area. He can tradeoff hardware and support elements to meet an end objective, and be better able to defend his resources from individual attacks. The Services have made a start toward implementing this objective. Improved technical support and trained personnel are needed by the program managers for effective implementation. The payoff is potentially very large in focusing the support related efforts and providing incentives, without the program manager being overmanaged.

SecDef direct the Services to:

- Establish relevant readiness objectives for each new program. For existing development programs the Services should develop estimates of readiness levels to be achieved at early fielding and maturity.
- For new programs, require a jointly agreed to definition of the support approach at early fielding.

Implementation: MRA&L task the Services to establish readiness objectives on developmental weapons within a year.

(Priority high, implementation - near term)

Funding

Although the support resources are planned centrally under the direction of the program manager, the budget decisions on the resources are made in separate funding accounts. Visibility of the effects of these decisions on readiness and the balance between spares, training, test equipment, depot and manpower requirements depends on the Service and weapon system. This situation is further aggravated within the Services since some of the weapon support funds (spares, training, depot maintenance) are controlled by activities not responsible to the program manager. This situation reduces the program manager's direct responsibility for and incentives to manage to achieve readiness. There is a basic issue how far to centralize the funding control under the program manager. SecDef should direct:

- Services to propose internal procedures to give more authority to the program manager on funding affecting the support of his weapon system not currently under his direct control.
- For selected weapon systems (those nearing production or in early production), that funding requirements for the different logistic elements be reviewed at one time to provide visibility and agreement in all appropriation requirements. A two year trial is recommended.

Implementation: MRA&L with OSD(C) task the Services to develop proposed approaches to achieve the above objectives and to submit within 6 months.

VI. Manpower

Limitation in DoD's ability to attract and retain skilled manpower will be a more difficult problem than fiscal constraints. Retention patterns vary markedly among the Services, among occupations within a Service, and in some cases between successive years. Overall the first-term reenlistment rates for electrical and mechanical maintenance occupations during FY77-80 have ranged from 17% to 43%, that average being roughly 36%. The patterns for career force reenlistment - that is for experienced personnel - have ranged from 46% to 85%, the average being roughly 67%. These are regarded as inadequate rates for both first-term and career reenlistments to maintain the capability needed to fix our weapons. (The increase in reenlistment rates since the October 1980 pay raise appears to have leveled off at 3-5 percentage points better than FY80 experience.) The current net effect is significant shortages of experienced journeymen and supervisors (on the order of 10-20 thousand per Service). These shortages are for current systems and do not reflect the additional requirements caused by the introduction of complex new systems by the mid 1980's. Personnel problems will continue and increase unless we can substantially improve retention and/or devise support concepts which

take less skilled people. More contractor support may be the most expedient near term solution, but has drawbacks discussed elsewhere. } ←

There is an emerging body of opinion that efforts to design "smart" equipment to be fixed by less smart people have often resulted in creating as many problems as they have attempted to solve. For example, some automatic test systems are not as foolproof as originally desired, and are complex and difficult to maintain. There is a major DoD problem in gaining an assessment and direction. Requirements for skilled maintenance manpower needs to be a major design constraint on our systems, but this is proving to be a hard problem. } ←

Policies to address these issues are in place. A combination of management emphasis for more near term attention and improved technical approaches for the longer term are needed. A number of Service efforts are now underway to attack the problems. This is an area where an implementing approach needs to be developed. Elements of this include:

- continue with development of a program of incentives to improve retention of skilled Service maintainers.
- bound the scope of the problems for the mid 1980's and identify skills which will be in most short supply.
- establish a means for improving the realism of specifications and incentives for industry to design to realistic skill level constraints. } ←
- develop interim maintenance concept options which employ service personnel in the most critical areas for our combat capability and use contractor support to augment as needed.

Suggested implementation is to ask MRA&L and USDR&E to jointly draw up a plan of attack in the near term.

(Priority high; implementation - developed near term)

TEAM C - ANNEXES

- ANNEX A - Readiness and Support Resource Trends and Case Examples
- ANNEX B - Support/Readiness Requirements for Concurrency
- ANNEX C - Weapons Support Funding
- ANNEX D - Team C Members

TEAM C

READINESS AND SUPPORT RESOURCE TRENDS AND CASE EXAMPLES

This annex discusses some general trends in the readiness and operating cost areas. Case examples are also presented to provide a common point for discussion of what can be done to improve the planning and acquisition processes. In each of the cases, Service efforts to resolve the problems have been generally successful. First, it is important to characterize our use of the terms operating and support costs and "readiness." Operating and support costs reflect the recurring costs for operator and maintenance manpower, fuel, spares that are consumed, manpower, depot operation and logistics overhaul. These costs are measures of the expenditures that are needed to operate and maintain the weapon system. Note that the costs do not reflect the investment needed to set-up the logistics systems (that is, buying test equipment, spares, simulators) which is approximately 5% to 30% of the acquisition cost, depending on the weapon system. Readiness is the degree to which a weapon system in peacetime is prepared for war and once committed to war can meet the required levels of combat activity. The weapon system includes not only the primary hardware, but also the operators, maintainers and logistics (spare parts, support equipment, and ammunition, etc.). Readiness does not have a single measure, but rather consists of series of measures that reflect unique system peacetime and wartime mission objectives. These factors, plus others, interact in a complex manner to determine system readiness.

GENERAL SUPPORT TRENDS

Operating and Support Costs. Operating and support budgets have remained reasonably stable during most of the 1970s when viewed in constant dollars. However, in the case of the Navy and Air Force, the number of weapon systems being supported has decreased significantly. For example, Navy ships have decreased from about 770 in 1970 to about 450 today. As shown in Figure 1, the Air Force operating aircraft inventory has also decreased by about 25% from 1972 to 1979. However, the operating and support budgets for these aircraft has remained relatively constant during this same period in constant FY-81 dollars (including constant fuel costs). Not shown in this figure is the fact that aircraft utilization rates also declined during most of this period. For example, average fighter aircraft utilization rates dropped from 32 hours per fighter per month in FY-69 to a low of 17 hours per month in FY-77. The increase in flying hours after FY-77 accounts for the slight increase in operating and support costs in recent years. Thus, the trend is that our systems are becoming more expensive to operate and maintain on a per unit basis; and this has occurred during a period in which readiness problems have been on the increase.

Some of this increase in "per unit" support costs is a price that is paid for increasing complexity, as shown in Figure 2. The aircraft in the figure have been normalized to the same operational scenario within each of the Service sets.

Mission Capable Rates. Mission capable rates reflect the percent of possessed weapon systems that are fully capable of performing their combat missions. While not a good measure of a force unit's potential combat effectiveness, they are a good measure of the effectiveness of support resources. The recent trend has been toward lower mission capable rates. Figure 3 is a comparison of the mission capable rates of the older generation F-4 and A-7 aircraft with the newer F-14 and S-3 aircraft. The lower mission capable rates, are the result of a complex interaction of system failure rates for the newer aircraft, spare parts availability, support equipment effectiveness, and maintenance personnel.

Spare Part Requirements. In general, reliability improvements derived from technological innovations might be expected to decrease the cost of spare parts required to support a given level of operations. However, this has not been our experience. Typically, technology has been used to increase the performance of our systems. Thus, rather than simplify components, it has increased their complexity and cost. Even though reliability may increase, many of the new systems experience parts shortages greater than their predecessors. For example, though the F-15 is at least 50% more reliable than the F-4, the percentage of aircraft awaiting parts for more than 21 days in FY-80 was much greater for the F-15 (i.e., 14% for F-15 versus 6% for F-4). The manpower situations discussed in the basic paper has further contributed to this situation. In order to keep skill requirements to a minimum, designers have resorted to Built-in-Test within weapon systems and large computerized automatic test equipment in the intermediate level maintenance shops. Inconsistencies or mismatches between items have, in fact, increased the quantities of spares required due to a phenomenon called "Retest Okay." This problem occurs when the weapon system built-in test indicates that a system malfunction has occurred. The technician pulls the indicated black box, draws a new one from supply, and turns the "defective" one over to the intermediate maintenance shop. The intermediate maintenance test equipment is used to perform fault isolation and often cannot duplicate the failure indicated by the built-in test. The black box is then returned to supply for issue. In the case of the F-15 radar the retest okay rate has stabilized at 25-28%. A similar problem also exists with the mismatch between electronic intermediate shop and depot maintenance test equipment. In the case of the F-15 radar, the depot retest okay rate has stabilized at about 30%. The end result is that there is an increasing requirement for quantities of spare parts at the same time that the complexity of parts has increased their unit cost.

FIGURE 1
AIR FORCE ACTIVE AIRCRAFT INVENTORY
WITH ASSOCIATED OPERATING AND SUPPORT COSTS
(CONSTANT FY81 DOLLARS)

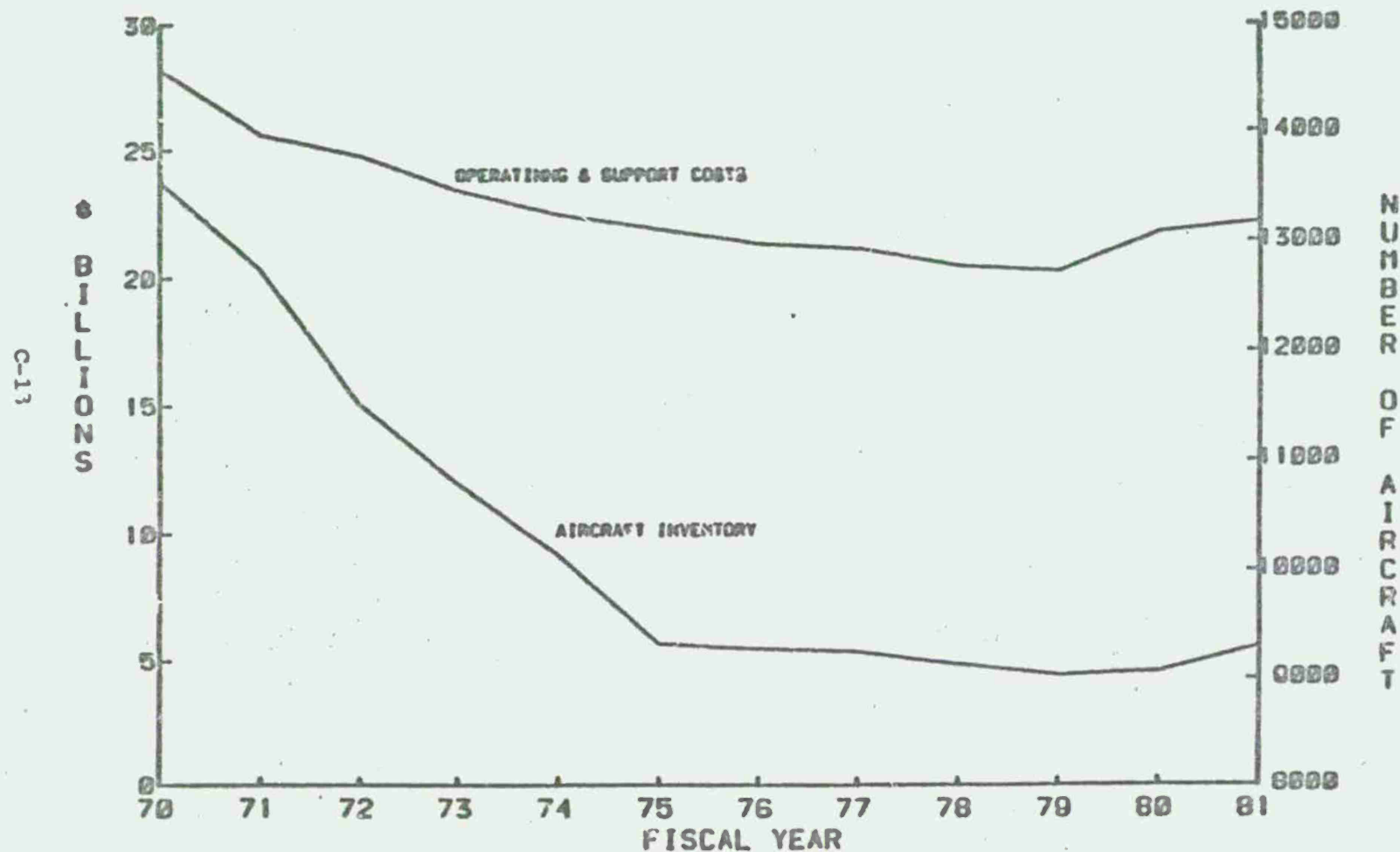


FIGURE 2
ANNUAL SQUADRON OPERATING AND SUPPORT COSTS
 (FY81\$ PAA/SQ, AF=24, NAVY=12)

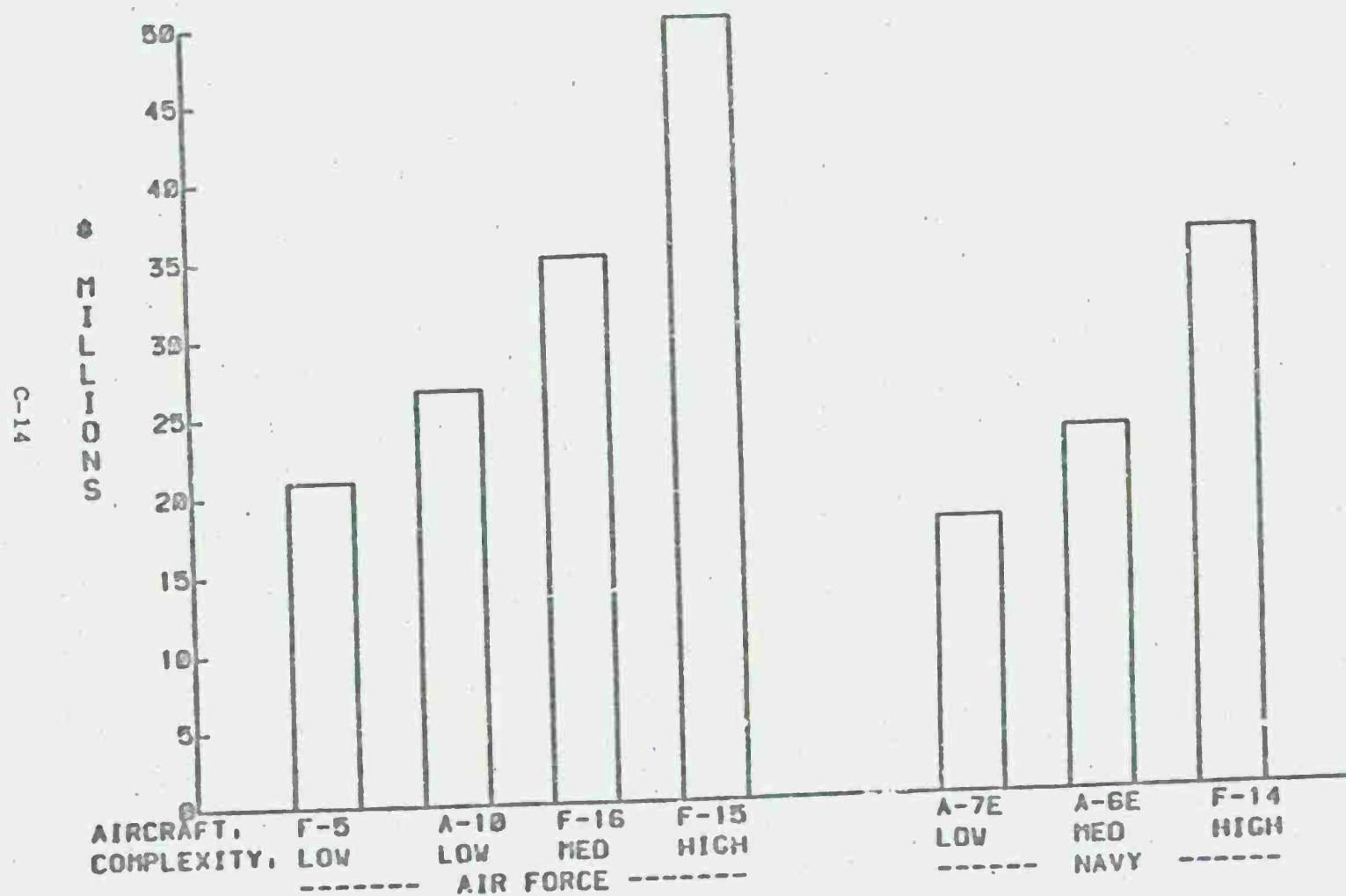
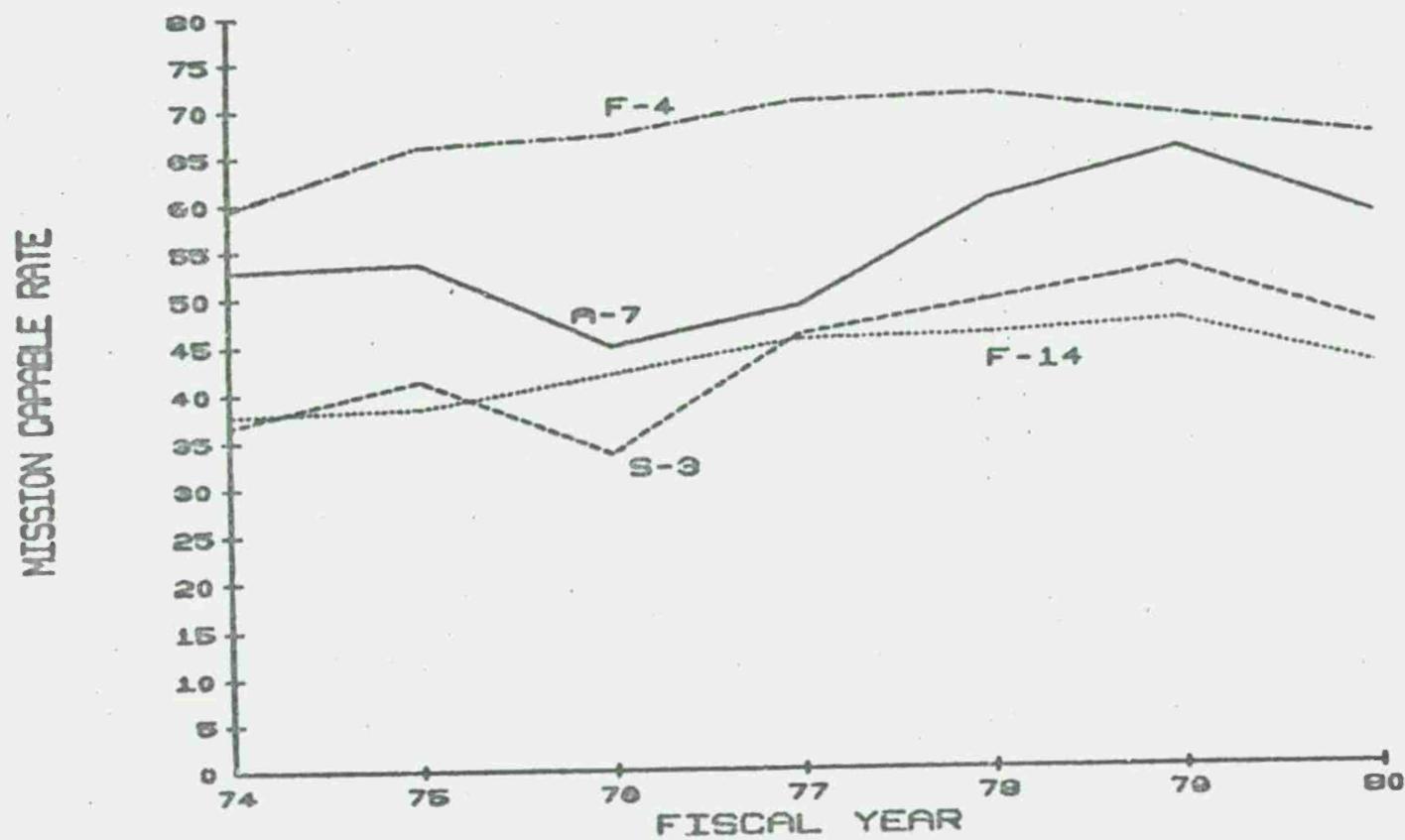


FIGURE 3
NAVY AIRCRAFT MISSION CAPABLE RATES



CASE EXAMPLES

MK-86 Fire Control System. The MK-86 fire control system is the primary weapons control aboard the most advanced Navy combat ships, providing multiple modes of operation and simultaneous tracking of more than one target. This system has been plagued by low readiness since its introduction to the Fleet. The operational availability goal was initially set at 90%. However, the combination of 16 hours average repair times and limited ship board spares resulted in only 60% operational availability being achieved. After considerable analysis, the Navy has decided to improve reliability to 200 hours between failure at a cost of \$6 million and to increase spares support. This should achieve a 75% operational availability. So the problem was resolved via a combination of improving reliability, increasing spares support levels, and lowering the availability goal to a more realistic value.

M60A2 Tank. In the late 1960s the Army rushed through a program to fit the dual-role gun or missile launcher Shillelagh system on a tank. The tanks were produced quickly, but were unreliable and complicated. Five years of corrective engineering and retesting were required before they could be fielded. The deployment to units in Germany was constrained by complicated and expensive logistics backup requirements. The M60A2's combat effectiveness was less than desired because of the extraordinary measures required to keep it operationally ready and its low mean miles between failure.

F-14. The F-14 aircraft program is a concurrent program which experienced readiness, reliability and maintainability problems when initially introduced into the field. The aircraft availability declined due to significant increases in failure rate of mission control system, increased (over that predicted) maintenance times, multiple aircraft configurations, test equipment problems, internal support deficiencies and major engine failures. The Navy spent about \$0.5 billion over a 4-year period for hardware improvements, configuration updates and additional spares to substantially reduce the problems initially encountered. The overall mission capable rate is about 50% vice earlier designed aircraft which have mission capabilities of 60%.

M110A2 Howitzer. The M110A2 had major component and piece-part that resulted in excessive downtime in the field. A long-range program to re-engine the howitzer was instituted for increased durability and reliability. Over 40 Product Improvements Programs (PIPs) resulted from this program.

I-Hawk. The I-Hawk readiness has been the subject of study due to high failure rates of some components and difficulty obtaining replacements. PIPs have been initiated to correct the failure rate problems. The original readiness problems were quite severe. The project tried for several years to obtain priority for PIPs before money was approved.

M-113. A major reliability problem was encountered with the diesel engine which was under powered. Completion of this modification - with corresponding improvement of the cooling system, has resulted in improved availability and sustainability. In addition, significant changes in the vehicle suspension system have also improved reliability.

AN/SLQ-32 Electronic Warfare Equipment. The SLQ-32 Ship-board Electronic Warfare Equipment was delivered with hardware and computer software not completely developed, and reliability and maintainability testing delayed until after Fleet introductions. This resulted in poor early system performance. Also there was lack of early consideration of manpower requirements which resulted in a manpower shortfall requirement for 240 additional Electronic Technicians (ETs).

ANNEX B

Actions Required to Integrate Logistics Into Concurrent Programs

The following represents a list of actions that should be integrated into a concurrent program structure.

- o Dedicated participation of logistics, manpower/personnel and training personnel in the concepts formulation phase with special emphasis upon the development of a range of acquisition strategies of which one might be ~~on~~ an option for accelerated or concurrent development.
- o Formulation of the projected "deliverables" in terms of operational and support capabilities that are acceptable to the user community for the full range of acquisition strategies. The negotiation of user-acceptable IOC conditions for a fast-track program strategy is essential to its ultimate success.
- o Early projection and commitment of increased support funding which will be mandatory in the early development phase which include:
 - project/program management personnel for both the government and for contractors.
 - extra test articles to be devoted to supportability testing.
 - increased requirements for early "design-for-support" initiatives by contractors to include the requisite analytical procedures.
 - increased requirements for support deliverables for assessment of design adequacy and for source selection.
- o From a support perspective the government must make a firm commitment to pursue a "fast-track" strategy at the end of the concepts formulation phase. To delay a decision to pursue a concurrent program would unnecessarily delay the achievement of support IOC objectives as a result of delaying deliberate support-related initiatives during the demonstration and validation phase.
- o Interim contractor support at a user-acceptable level must be an integral element in the development of a concurrent program strategy. Consideration should be given to a supply-based rather than a maintenance-based interim support system as an alternative to a high level of interim contractor involvement at IOC and thereafter.

- o Early provisioning of low-risk components and sub-systems is required. Delivery of provisioning data by competing contractors on a limited basis may be desirable. Standardization and use of acceptable government furnished materiel should be emphasized.
- o The production decision for a concurrent program does not depend upon the availability of support deliverables at the time the decision is made. However, a well defined plan of attaining support capabilities in the production phase must be of primary consideration.
- o Dedicated test support must be planned for and provided in the production phase to provide the critical feedback to the design activity. Reaction to test results must be positive and commensurate with overall program goals.
- o Provisioning for spare and identified support equipment must be expedited preferably using prime contractor lines and early planning for multi-year procurement of support elements should be a major consideration.
- o Functional processes which support the fulfillment of program objectives must be streamlined throughout an accelerated program. These processes, for which the program manager relies mainly upon Service functionals, involve the provision of personnel, skills and training base requirements at the appropriate time. Also involved is the processes by which the system is integrated into the operational force structure to include manpower and equipment (prime and associated) authorizations. Current lead-times for such actions are not conducive to an accelerated (concurrent) program.
- o A well conceived plan for post-IOC product improvements must be developed early and presented as an element of the negotiated IOC posture.
- o Deliberate planning for transition from preplanned interim contractor support to organic support is essential and program manager responsibility cannot be abrogated until program readiness goals and full operational and support capability is attained.
- o Throughout a concurrent program, contractors must be incentivized to "design-for-support" early and the emphasis must be maintained throughout the program.
- o The maximum utilization of proven state-of-the-art technology is essential to a concurrent program to reduce the potential for program instability growth. Resistance to design change is required and appropriate "filtering" of change proposals is essential to program success. When necessary, desirable changes should be defined and incorporated in a deliberate manner into the product improvement strategy after IOC.

TYPICAL WEAPON SUPPORT RELATED ACTIVITIES FOR FAST PROGRAMS

CONCEPT EXPLOR.	DEMONSTRATION/VALIDATION	FULL SCALE DEV. AND LIMITED PRODUCTION	PRODUCTION/DEPLOYMENT
<ul style="list-style-type: none">oo ALT. SUPPORT/READINESS DEVELOPMENT OPTIONSo EST. INITIAL READINESS OBJECTIVESo IDENTIFY SUPPORT FUNDING REQUIS.o QUANTIFY SUPPORT RISKSoo MAKE FAST TRACK PROGRAM DECISION	<ul style="list-style-type: none">oo INCLUDE DESIGN FOR RELIABILITY AND MAINTENANCEo PARALLEL SUBSYSTEM TESTING FOR SUPPORT-ABILITYo INTERIM CONTR SUPPORT PLANNING/BUDGETESTAB. SPARES PROC. CONCEPToo FIRM OPS/SUPPORT CONCEPT DECISIONNEW MANPOWER SKILL REQUIREMENTS	<ul style="list-style-type: none">FIRM READINESS/SUPPORT OBJ.o PARALLEL PRIME SYSTEM SUPPORT TESTINGo RISK REDUCTION/MATURATION PLAN (EARLY IMPROVEMENT) SUPPORT RESOURCE DEVOP.oo FIRM-UP CONTRACT SUPPORT PLANSoo ASSESS TEST RESULTS IMPACT ON READINESS/MANPOWER OBJ.o DEV. PLANS FOR P³I PRE-PLANNED PRODUCT IMPROVEMENT - OVER SEVERAL YEARS	<ul style="list-style-type: none">o FIRM/IMPLEMENT, P³I (PRODUCT IMPROVEMENT PLAN)oo FIX PROBLEMS,o VERIFY ACHIEVEMENT OF READINESS OBJECTIVESACQUIRE SPARES/SUPPORT RESOURCES

oo Earlier

o New

ANNEX C

WEAPON SUPPORT FUNDING

	ARMY	NAVY	AIR FORCE
Spares for Site Activations	Material Readiness Command (MRC) (ICP)	PM(1-2 years), Inventory Con- trol Points (ICP)	AFLC
Test Equip. Special - Common -	PM/PM Test Equip MRC	PM NAVELEX	PM AFLC
Training Equip - Facilities - Operations - Sustained -	PM/PM Trade COE TRADOC/MRC/MACOM TRADOC	PM PM Training Command Training Command	PM Training Command Training Command Training Command
Depot Equip Spec - Comm -	PM DEPOT SYSTEMS CMD (DESCOM)	PM NAVELEX	PM AFLC
Spares - Operations -	MRC DESCOM	ICP NAVMATCMD(NMC)	AFLC AFLC
Contractor Support	MRC	PM/ICP	AFLC
Support Facilities	Corps of Engineers	NMC/FLEET	USER
Manpower Requirements	Dept of Army	Chief of Naval Operations	USER
Associated Support Items of Equipment	MRC	NMC	
Sustained Support Spares	USER/MRC	ICP	

ANNEX D

TEAM C
IMPROVING WEAPON SUPPORT AND READINESS

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Lt. Col. Frank Tubbesing	OUSD(R&E)DDTE	5608
Emerson Cale	NAVMAT0421	23011
Lt. Col Bruce W. Ewing	HQ USAF/LEYE	70311
Maj. Tom May	PA&E	74311
Capt. Robert C. Powers	DSB/OP-098R	76446
John Sylvester	NAVAIR(AIR-41)	20521
Frank McDonald	OSD/PA&E	79141
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TEAM D

IMPROVING THE DSARC PROCESS

Defense Acquisition Process
Working Group

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30 March 1981
Report #2 (Revised Final)

Team "D"

Improving the DSARC Process

The effort of Team "D" has focused on developing complete acquisition process alternatives directed at improving the current process.

The key improvements anticipated through adoption of any of the alternatives are:

- improved program stability and overall decreased program costs;
- reduced acquisition time;
- enhanced participatory management;
- flexibility emphasized in program structure and management oversight reviews.
- greater decentralization of acquisition process.

These improvements are achieved in all of the proposed alternative processes through the following:

- the process of program (mission) need determination is speeded; Mission Element Need Statement (MENS) is eliminated or shortened; SECDEF control is exercised within program/budget process.
- documentation is reduced in scope and some submission requirements eliminated at early milestones.
- Milestone phases and decisions points are retained; or SECDEF control is exercised through interjection of explicit disapproval vice approval.
- Milestone II (Full Scale Development) is further emphasized.
- the transition-to-production phase is facilitated through emphasis of provision for initial production at Milestone II and recommends flexibility to shift R&D and procurement funds within program totals to cover unanticipated contingencies.
- Management reserves are also recommended.
- incremental program reviews (Milestones IIA, IIIB etc.) are discouraged; program progress is monitored by the Services; additional program reviews occur as a result of significant program difficulty.

- o the DSARC - PPBS interface problem is resolved by insisting that a program reviewed by the DSARC be adequately funded in the latest FYDP. DSARC recommendation and subsequent SECDEF approval certify a program is ready and authorized to proceed; funding and affordability determinations are a function of the PPBS process, but are considered by the DSARC.

Three alternatives are forwarded for consideration:

- The premise of Alternative One is that the current acquisition process is a logical and sufficiently flexible management system for guiding major acquisitions. Improvements are made within that framework by reducing administrative burden, further emphasizing flexibility; and shortening the cycle. The significant features are:
 - Milestone 0, occurs in the PPBS; MENS shortened or eliminated.
 - DSARC reviews at Milestone I would be held only when required; documented by terse Decision Coordination Paper (DCP); single briefing for OSD staff when required. Note: Service(s) is/are represented at DSARC executive sessions.
 - Milestone II is key; concurrent approval for release of initial procurement funding facilitates transition-to- production; documented by DCP to support decision; shorter Integrated Program Summary (IPS), Test & Evaluation Master Plan (TEMP) required; DSARC review usual.
 - Milestone III usually occurs upon completion of Initial Operational Test & Evaluation (IOT&E); release to full production; additional reviews may not require full DSARC; documented by new DCP supporting decision; IPS, TEMP, Cost Analysis Improvement Group (CAIG) and T&E reports.
- Alternative Two proposes two significant revisions to the existing process, reduced front-end and a more flexible transition-to-production phase. The proposal significantly reduces SECDEF/OSD staff formal involvement in the initial program phases, emphasizes Milestone II and retains Milestone III. The main features are:

- Services define major acquisitions in response to SECDEF policy guidance and are fully responsible for management of Milestones O and I.
 - SECDEF approval for a major weapon system acquisition would occur at Milestone II - when program is better defined and major resource commitments are identified in Service budget/FYDP.
 - Program funding and affordability would be handled in PPBS.
 - Limited initial production authorization would be emphasized at Milestone II.
 - Milestone III would occur as in Alternative One.
 - Features of this alternative are reduced program reviews and administrative burden.
- Alternative Three recognizes the relatively small percentage of total program funds committed prior to Full Scale Development (FSD) contract award. Using a "cash flow" model, it proposes to reduce program reviews. Two major decision points are defined; Requirements Validation and Program Go-Ahead. The latter is linked directly to a funding Not-To-Exceed (NTE) threshold. Program activity and progress is similar to the current process except the Program Go-Ahead decision (Milestone II) would occur later in the program than is current practice. The significant features are:
 - Program review points associated with Milestone O and I would be subsumed by Requirement Validation, Milestone III and subsequent program decisions would be delegated to the Services.
 - Two additional decision points conducted by the Services are defined; Production/Deployment Readiness Review equivalent to current Milestone III; Post Deployment Review occurring about 2-3 years after Initial Operational Capability (IOC) to assess logistic supportability and achievement of operational effectiveness.
 - Alternative Four is more of a management philosophy than a separate acquisition process. It implements the concepts of decentralized authority and management-by-exception by delegating program management to the Services. This policy could actually be applied to any of the other three alternatives. The significant features are:

- SECDEF authority would be maintained through a by-exception review of Service Secretary decisions and the annual budget review.
- DAE and DSARC/DRB would be retained to formulate macro level policy and advise SECDEF.
- The proposal is consistent with Service Secretary legal authority but may require clarification of sections of OMB circular A-109.

The final activity of the Team was the development of seven independent improvements to the process which could be applicable to all of the alternatives. In brief:

- Revision of MENS. Three options, eliminate, i.e. use existing PPBS documentation, shorten and provide as information to SECDEF, or shorten with SECDEF continuing to approve.
- Post Milestone III Service reviews to validate logistics supportability.
- Pre-Planned Product Improvement. Proposal recognizes that long life of most weapon systems dictates upgrades/modernizations. Preplanning will reduce propensity for technology push and reduce development risks.
- The Defense Acquisition Executive being double hatted as the Under Secretary of Defense for Research and Engineering is questioned. It is thought that this organizational assignment does not provide adequate check and balance and that the DEPSECDEF as acquisition executive is more appropriate.
- Current dollar threshold guidance is considered too low for designation of major program. Increasing threshold from current \$100M R&D/\$500M Procurement to \$200M/\$1B is proposed.
- Current budgetary ranks prevent fiscal flexibility between R&D and Procurement funding during the transition to production phase. Changes to the DOD Appropriations Act, Congressional interpretations, and OMB policy are required.
- The interface between the DSARC and PPBS processes needs resolution. The proposal is to make all affordability/funding decisions an explicit PPBS function. Only affordable programs would be reviewed at a DSARC.

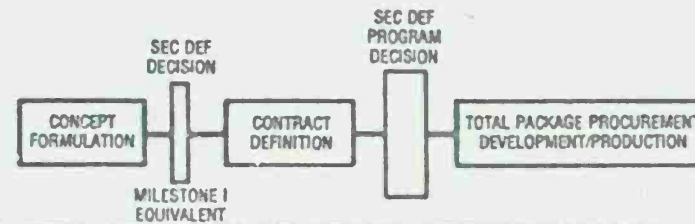
ACQUISITION PROCESS ALTERNATIVES

D-5

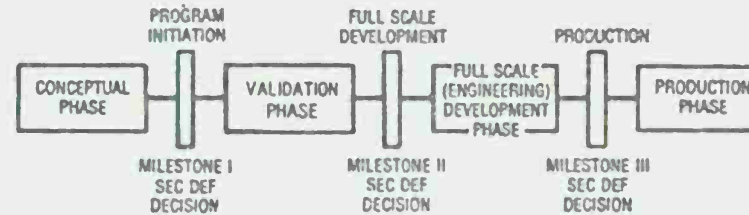
	CONCEPT EXPLOR.	DEMONSTRATION/VALIDATION	FULL SCALE DEVEL. AND LIMITED PRODUCTION	PRODUCTION/DEPLOYMENT
CURRENT	MEMO SUBMITTED FOR APPROVAL OF SECDEF NO DSARC REVIEW.	DSARC REVIEW AND SECDEF APPROVAL. DOCUMENTATION: DCP, IPS, TEMP. BRIEFINGS TO CAIG, T&E, M&LA.	DSARC REVIEW AND SECDEF APPROVAL. DOCUMENTATION: DCP, IPS, TEMP. BRIEFINGS TO CAIG, T&E, M&LA.	DSARC REVIEW IF REQ; SECDEF APPROVAL EVEN WHEN NO DSARC REQ. DOC: DCP, IPS, TEMP. BRIEFINGS TO CAIG, T&E, M&LA. SOMETIMES MULTIPLE DSARC REVIEWS.
MODIFY/IMPROVE	MEMO SUBMITTED TO PLING PROCESS OF PPBS FOR MISSION AREA REVIEW & APPROVAL; SECDEF NOTIFIED WHEN SYS RESOURCED IN PPBS, BUT NOT FOR SUBMIT. REDUCE DOCUMENTATION.	DSARC (IF REQUIRED), SECDEF APPROVAL TO PROCEED, SSDM. PPBS DETERMINES AFFORDABILITY, DSARC TECHNICAL/MGMT REVIEW STRATEGY ALTS. DCP (REDUCED), PRELIM TEMP.	DSARC (USUALLY). SECDEF APPROVAL TO PROCEED, SSDM. PPBS INPUT BETTER REFINED FOR ALL APPNS. KEY AFFORD REVIEW. CONCURRENCY FOR INITIAL PRODUCTION. DCP, IPS, TEMP, LOC COST, FIRM GOALS AND THRESHOLDS, P&I INPUT. NEXT MILESTONE DEFINED. CONCURRENCY FOR PRODUCTION TRANSITION.	DSARC (IF REQUIRED) SDO, NORMALLY AFTER IOT&E. FULL OR PARTIAL RELEASE OF ADD'L PROC FUNDS. DCP, IPS, TEMP, OT&E, CAIG, P&I REQ. REVIEWS IN ADDITION TO MILESTONE III BELOW DSARC LEVEL. (IF REQUIRED.) (PROPOSE) LEGISLATION FOR TRANSFER AUTHORITY CONCURRENCY FOR PRODUCTION TRANSITION.
REDUCED FRONT END/CONCURRENCY TO PRODUCTION	MEMO - INFO SECDEF. INTERNAL SERVICE FUNCTION.	INITIAL DCP, TEMP SUBMIT TO SECDEF FOR COMMENT. INTERNAL SERVICE BRIEF. SINGLE OSD BRIEF: CAIG, M&LA, T&E; DEVELOPMENT/ROUGH ACQUISITION COST EST.	DSARC (REQUIRED). ALL OTHER REQTS SAME AS ALT. ONE.	DSARC (REQUIRED). ALL OTHER REQUIREMENTS SAME AS ALTERNATIVE ONE.
CASH FLOW OPTION		REQTS VALIDATION. SECDEF REVIEW DOCUMENTATION: THREAT VALIDATION, ALTERNATIVE SOLUTIONS, HIGH RISK TECH; SET PROGRAM GO-AHEAD COST THREE OLD AT CDR; ESTABLISH INITIAL GOALS FOR COST, S&ED, PERF. & READINESS; PROVIDE O&S CONCEPTS AND ACQUISITIONS STRATEGY; SINGLE BRIEF	PROGRAM GO-AHEAD ACCOMPLISHED AT COST THRESHOLD/CDR. OTHER REQUIREMENTS SAME AS ABOVE EXCEPT FOR TIMING.	
NOTE (CASH FLOW OPTION): INTERNAL SERVICE REVIEWS (INFO SECDEF) WILL DETERMINE CONCEPT EXPLORATION TRANSITION TO DEMONSTRATION/VALIDATION. START OF FULL SCALE DEVELOPMENT AND INITIATION OF FULL-RATE PRODUCTION. SERVICE CONDUCTED POST DEPLOYMENT REVIEW (2-3 YEARS AFTER IOC) WILL ASSESS ACHIEVEMENT OF CRT, PERFORMANCE, READINESS/SUPPORTABILITY GOALS AND PLANNED MODIFICATION OF TECHNOLOGY-DEFERRED CAPABILITY.				
DECENTRALIZE TO SERVICES	SERVICE DETERMINES NEED REQMT. DOC.-INFO SECDEF	(S)SARC IF REQUIRED (S)DCP-SHORT, TAILORED TO SERVICE NEEDS DECISION INFO. TO SECDEF ROUGH COST EST.	(S)SARC (S)DCP - SAME SSDM DSARC IF SECDEF REQ. DETAILED LOC FIRM GOALS & THRESHOLDS	(S)SARC IF REQ (S)DCP - SAME SSDM DECISION INFO SECDEF LOC UPDATE

SYSTEMS ACQUISITION PROCESS

McNAMARA ERA
1960's

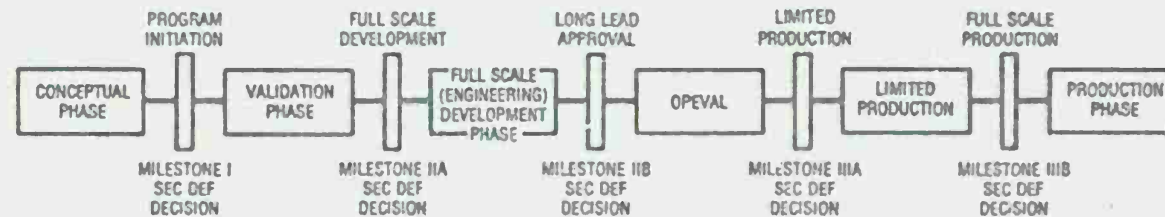


PACKARD ERA
(1970-1973)

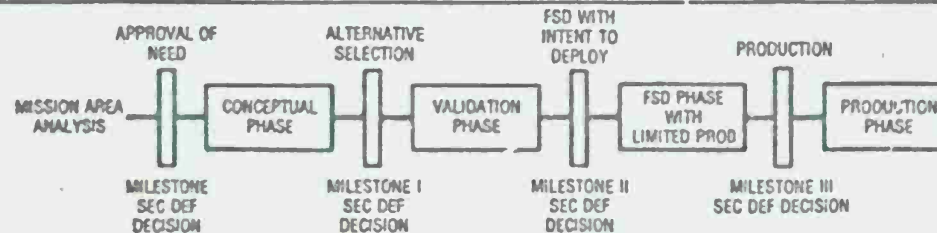


CLEMENTS
(T&E) ERA
MID-70's

NCT OFFICIAL POLICY
BUT IMPLEMENTATION
OF "FLY BEFORE BUY"
GREW TO THIS ON
SOME PROGRAMS (e.g.
LAMPS, TOMAHAWK,
F-18)



PERRY ERA
(A-109 ERA)
1977-NOW



Current Acquisition Process

The current acquisition process is frequently characterized as steadily lengthening. The evolution of acquisition policy from Total Package Procurement through the DSARC process up to the current OMB circular A-109 policy has seen the institutionalization of additional management review and procedural checkpoints beyond those originally envisioned by the seminal Packard-Laird concept. These changes have been too often applied inflexibly, contributing to the perceived lengthening of the acquisition process. A result as much from institutional/management practices as from process design.

The acquisition process policies are embodied in DODD 5000.1, Major System Acquisitions, which incorporates OMB Circular A-109. The major thrusts of DODD 5000.1 are to formalize the DSARC process for major systems using four milestone decision points, encourage the Services to exercise flexibility that would tailor the milestone phases and permit concurrency, streamline documentation used in the milestone review process, and elevate the importance of supportability concepts. Milestone decisions are the only decisions to be made by the Secretary of Defense.

In addition, DODD 5000.1 requires the formation of Service System Acquisition Review Councils (SSARCs). These SSARCs are structured to resemble the DSARC and establish the Service position recommended to the DSARC for major systems and recommend milestone decisions for the Service Secretary Designated Acquisition Programs.

In theory the acquisition process provides for considerable flexibility in imposition of formal management reviews, documentation and other procedural matters. In practice the process has become layered, inflexible and demotivating.

The three DSARC milestone reviews have expanded to sometimes include a IIA, B and IIIA, B. This expansion has not been challenged nor the administrative burden to the programs given consideration.

A major criticism, associated with the milestone review process, is that the "front-end" - the period from program conception to DSARC Milestone II - has increased substantially. A major cause of this has been attributed to front-end planning. Lengthy, formalized interaction with OSD, during the "need" formulation phase, has added "visible" time to the front-end phase.

A key ingredient of the DSARC review process is affordability. Affordability is primarily a function of the PPBS. The acquisition process, with milestone decisions based on a systems development progress, is difficult to relate to the time oriented PPBS. This has caused continual difficulty since the PPBS determines the real priority and often forces revisions to the programs acquisition strategy and frequently lengthens the acquisition process.

The root of the problem lies in the fundamental dichotomy of the two processes. The DSARC process reviews single programs at significant milestones to determine the readiness to proceed into the next phase; DSARC decisions are approved by the SECDEF. In contrast, the PPBS addresses all programs within a resource allocation framework. The DSARC milestone decisions are sometimes made without adequate consideration of resource availability to execute the program under consideration. Furthermore, changes to program funding resulting from other considerations during the programming - budgeting cycle undermine program acquisition strategies endorsed by the DSARC. This lack of explicit resource (including support and manpower) commitment resulting from a successful DSARC review and subsequent SECDEF endorsement is frequently cited as a flaw in the OSD acquisition management process.

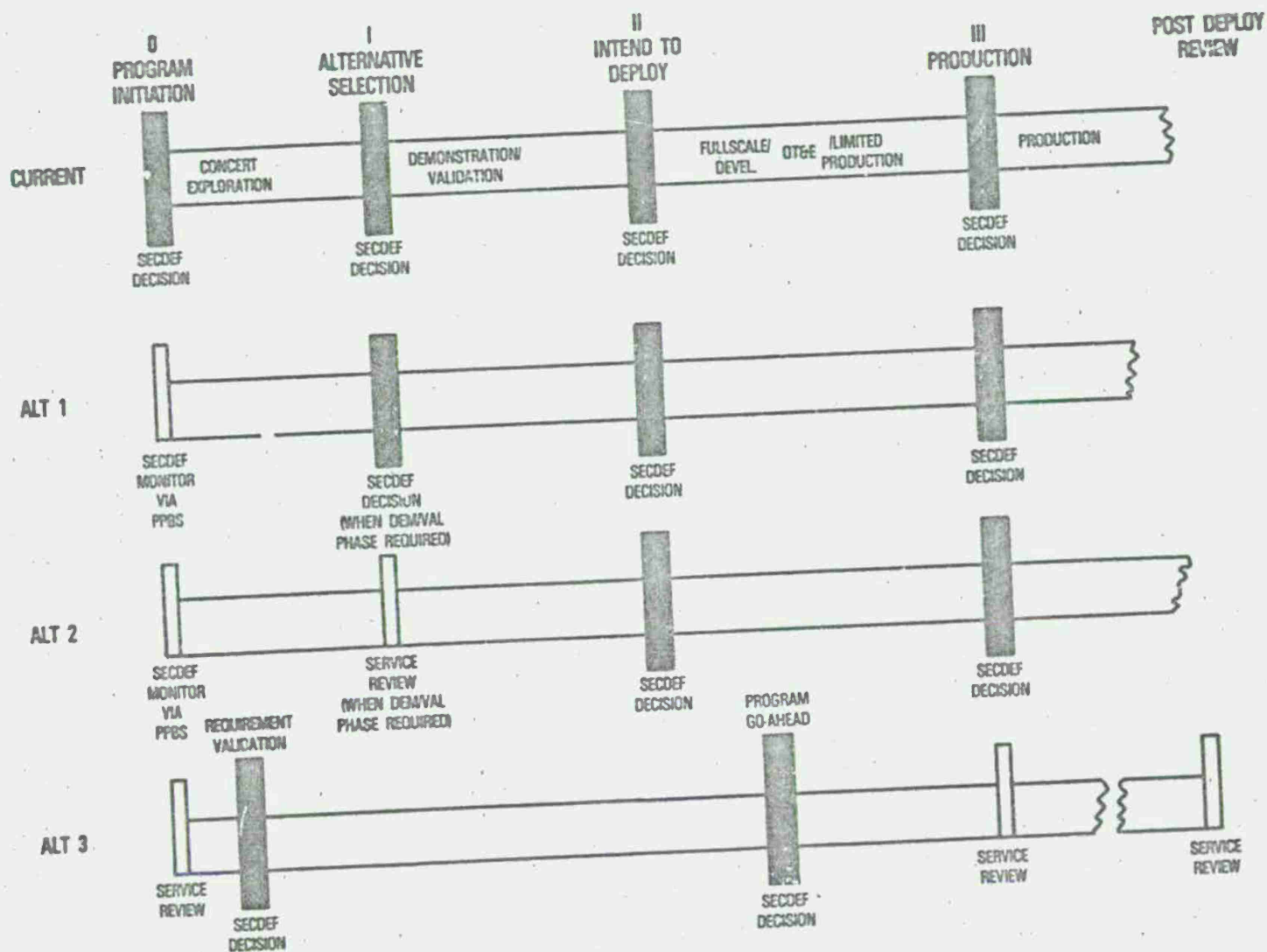
Revisions of the governing DSARC directives have sought to rectify the situation. However, ambiguity as to the degree of resource commitment represented by successful DSARC review and endorsement persists.

Succinctly, significant program inefficiencies have resulted from lack of an initial/sustained level of resource commitment.

A third difficulty with the current acquisition process has been the notion of "concurrency". This is usually interpreted as overlapping development and early production activity. The degree of procurement fund exposure acceptable before requisite development/operational testing is complete is a matter of judgment. The length of the budget development, authorization, appropriation process exacerbates the problem and delayed fielding. In practice the "transition-to-production" phase has lead to the growth in program reviews. Program reviews are interposed as incremental procurement fund release points tied to test accomplishment. This reduces financial exposure with the objective of avoiding costly modifications to early production end items and potential downstream support costs; it is not clear that the presumed cost avoidances are greater than the cost of an inefficient program production start-up and delayed fielding.

The final criticism of the existing acquisition process as practiced is the lack of flexibility in the application of the procedures and policies. While there has been movement in this direction, policies should go further in emphasizing flexibility. Institutional proclivities tend toward "no risk" and that leads to inefficient revisiting of decisions and procrastination. The DSARC process was intended to loosen up the acquisition system, but the administration of the process has tended toward increasing inflexibility leading to program "gaps" and increased administrative costs.

ACQUISITION PROCESS ALTERNATIVES



D-10

IMPROVE ACQUISITION PROCESS
Alternative One

A. Overview: The premise underlying Alternative One is that the current four phase acquisition process is a logical and sufficiently flexible management construct for guiding major systems acquisition. The intent is to seek improvement within the general framework of the existing system, assuming major improvement does not necessarily demand major change. Alternative One is essentially an effort to streamline the current process, to reduce the administrative burden associated with it, to emphasize its flexibility and enforce its other positive aspects, and to shorten the acquisition cycle.

B. Problem: The most widely perceived shortcoming with the present process is a trend towards lengthening the acquisition cycle from need identification to system fielding. Several factors have been identified as contributing to this trend, specifically: excessive time required to gain approval of a formal Service Mission Element Need Statement (MENS); lack of flexibility in the DSARC process, unnecessary documentation and briefing; and lack of program stability.

C. Discussion. Alternative One accepts the spirit of OMB Circular A109 and retains SECDEF's visibility and management control of key decision points. This philosophy is tempered, however, with an understanding that the acquisition process must be characterized by flexibility, that the system itself is only a notional guide. The requirement for formal DSARC deliberations, the timing of individual actions or milestones, and the level of detail appropriate for various documents and briefings are all subject to the needs of the individual acquisition program. The Alternative One philosophy proposes a serious attempt to reduce unnecessary management features imposed by OSD on the Services but also demands a concerted effort to reverse the proliferation of internally directed Service requirements for acquisition briefings and documentation. However, the fundamental view is that the greatest potential for shortening the acquisition cycle is not in decentralizing the process or reducing the number of decision points but in ensuring funding discipline, i.e., we have too many programs in R&D and procurement at a given funding level. The result is inefficient R&D levels of effort and uneconomically low production rates. As is the case with Alternative Two and Three, the success of Alternative One relies heavily on successful implementation of a better disciplined, revised PPBS process. A description of the Acquisition system under Alternative One follows:

MILESTONE 0 - Program Initiation:

Mission need statements for new starts are debated and compete for resources in the planning phase of the PPBS. Separate formal notification of a major system start will be made to SECDEF when resources appear within the FYDP. This approach would be facilitated by projected improvements to the long range planning process resulting from the PPBS Improvement Task Force. Industry participation would still be encouraged. Technological opportunities may be identified at any time.

- MENS documentation is in the Service Program Objective Memorandum (POM) submission along with a listing of major new starts in the POM years. (See separate "Idea" paper on MENS content.)
- SECDEF would place designated programs on his major programs list.
- SECDEF approval is implicit by major programs listing and budget submit.
- Budget approval would define program initiation.
- POM/Budget submit would contain best guess funding wedge for all FYDP/EPA years.
- Direction to pursue joint program a product of OSD POM review or, if resources are identified, by separate guidance at any time.

MILESTONE I - Approval for Demonstration/Validation:

Flexibility in the acquisition process is very apparent at Milestone I. Frequently a demonstration/validation phase is unnecessary and in those cases a separate Milestone I decision is clearly not required. Milestone I DSARC meetings have been infrequent in recent years (averaging about two per year). When a major system does require a distinct demonstration/validation (e.g., the AMRAAM program where two contractors are each firing 12 proto-type missiles), a Milestone I DSARC is appropriate and the following guidelines apply:

- Documentation provided by the Service should consist of a Decision Coordinating Paper (DCP) (issues, alternatives, cost, 10 pages/less) tailored to facilitate the decision at hand. An Integrated Program Summary (IPS) is not required. A Test and Evaluation Master Plan (TEMP) should be submitted after the DSARC with timing stipulated in the Secretary of Defense Decision Memorandum (SDDM).

- A single prebriefing to OSD staff prior to the DSARC meeting should be provided for information. Agenda would include cost analysis and support considerations. No other briefings or meetings would be required of the Program Manager. DSARC composition is unchanged from current process at all milestones. Service attendance at executive session is also provided.
- PPBS/DSARC interface would be accomplished by insuring that adequate resources were programmed to execute the acquisition in appropriate PPBS documents (FYDP/EPA). The DSARC should not meet if adequate funds are not programmed to execute the recommended acquisition program unless offsets within the Service's program are identified.
- An acquisition cost estimate of the selected approach(es) will be available at this point and will be reviewed per current procedures. The cost estimate will be refined to insure consistency with PPBS.

MILESTONE II - Approval for FSD and Initial Facilitization and Initial Production:

This Milestone is the key milestone in Alternative One. The purpose of the Milestone is to approve the Full Scale Development (FSD) and production strategy, to examine the risk of that strategy, and to authorize release of procurement funds for initial facilitization and production as they are needed prior to Milestone III. This approach differs from the current Milestone II principally in that the general policy will be to allow transition to production with concurrent procurement funding, if justified, without additional, formal review by the DSARC and approval by SECDEF. DSARC II would take place prior to release of FSD funds and the resulting decision memorandum would contain approval for release of such funds.

Refined documentation will be required to support this milestone. The DCP will be constrained in length, but show clearly the investment strategy. A modified IPS will be required to describe specific program details. A TEMP is required but Alternative One offers the option of having the TEMP(1) submitted for approval as is not the case or (2) submitted for information as are other documents (e.g., DCP, IPS).

A DSARC will almost always be held, however, as at other milestones only a single prebrief will be held.

Affordability of the alternatives presented will be determined during the PPBS review. It is critical that the review in this process address the full resource requirements, across all appropriations, to insure that the development strategy is in fact adequately funded. The independent cost is particularly important and should be very refined with major divergences resolved prior to the DSARC.

A new element at this review is an examination of the potential for Pre-Planned Product Improvement (P³I). (See idea paper).

Firm goals and thresholds will be established and the criteria/dates for the next milestone defined.

MILESTONE III - Approval for Transition to Full Production:

There will normally be a DSARC review upon completion of Initial Operational Test & Evaluation (IOT&E) to authorize release of funds for full rate production based on consideration of cost, schedule, performance, and supportability risks. Prior to Milestone III, transition from FSD to initial (low rate) production and long lead releases for full production are accomplished by Service reviews if necessary as authorized at Milestone II. Follow-on reviews, if required to approve further buildups in production rate, will be conducted by the Services. Feedback on follow-up actions required by SDDM will normally be provided to SECDEF without formal DSARC review.

- DSARC Meeting - Usually, but with flexibility for SDDM approval without formal deliverion.
- SDDM - Yes
- Briefing - One day agenda: Cost Analysis Improvement Group (CAIG), Manpower and Logistics Analysis (M&LA), T&E
- Cost Estimates - Very refined Life Cycle Cost (LCC) estimates
- PPBS/DSARC interface would insure that procurement, Operations & Support (O&S), and manpower requirements are fully identified in POM/EPA.
- Accounting flexibility between 6.4 and procurement funding would be permitted to expedite and facilitate the transition to initial production.
- Documentation - DCP, ITS, TEMP; OT&E, CAIG Reports.
- P3I plans and cost estimates would be presented in detail.
- Schedule would be established for Service follow-on review of fielded system with full-up logistics (See separate "Idea" paper on Post-Milestone III Review).

D. Advantages:

- Immediately executable with little disruption
- In spirit of OMB Circular A-109
- Eliminates separate MENS review and approval process and integrates new major acquisition starts with the PPBS
- SECDEF exercises management oversight throughout but with emphasis on Milestone II
- Increases flexibility re: DSARCs, documentation, briefings, funding, concurrency and schedule
- Increases participatory management
- Increases program stability through closer integration of acquisition process with PPBS
- Reduces OSD and Service-generated briefing and documentation burden
- Shortens acquisition cycle by:
 - Streamlining "front end" approval process and documentation
 - Encouraging concurrency in initial production
 - Ensuring adequate and stable funding of preferred systems through improved PPBS discipline

E. Disadvantages:

- Reduces OSD participation at program start thereby increasing potential for initiation of marginal programs.
- Increases risks associated with initial production decision at DSARC II.

IMPROVE ACQUISITION PROCESS
Alternative Two

BRIEF OVERVIEW: Reduce Front-end of Acquisition process and establish a more flexible production transition phase.

PROBLEM: Program birth process (time to reach Milestone II) too lengthy and current flexibility in DOD Acquisition Policies not effectively used in the transition-to-production phase - Defense Science Board's 1977 Acquisition Task Force report found a three-fold lengthening of program birth process (and supported concurrency as a means of transition from development to production). Existing philosophies, budgetary constraints, and relationships between DOD and Congress on acquisition matters frequently do not allow effective implementation of existing DOD acquisition policy which advocates use of concurrency commensurate with program risk.

Current management procedures include highly structured programs, milestones, and decisions as part of the acquisition process and do not effectively use flexibilities identified in OMB/DOD acquisition policies. These factors, coupled with the hierarchy of reviews and supportive documentation to reach DSARC level decisions, frequently result in excessive delays in the acquisition of major weapons systems.

Current procedures support minimizing the acquisition time by allowing concurrency (combining or omitting phases) with SECDEF approval. OMB Circular A-109 acknowledges the merits and existence of concurrency and permits limited production in the Full Scale Development (FSD) phase. However, in the budgetary process, Congress and OSD are often reluctant to appropriate/release procurement funds in a timely manner and often place restrictions (legal/administrative) on obligation of such funds until development and testing have been completed and operational effectiveness and suitability have been certified.

DISCUSSION: This proposal significantly reduces formal SECDEF involvement in the initial phases, emphasizes milestone II as a key decision point, and establishes procedures for a more flexible transition to production. Essential elements of the approach are:

- The Services will be responsible for defining the major system acquisition responsive to SECDEF policy guidance. SECDEF guidance issued in PPBS process would provide the framework for Services to implement and be fully responsible for the management of milestones "O" and "I".
- "For information" copy of MENS would be given to SECDEF at Milestone O, and information briefing would be given to OSD at Milestone I.

- SECDEF specific approval for major weapon system acquisition will be made prior to FSD phase (Milestone II).
- Resource allocations must be closely linked to key milestones with flexibility for transfer between appropriations (Research & Development (R&D) and Procurement).
- Budget (through PPBS) to allocate larger procurement funding increments prior to completion of development (if required) when risk is reasonable - affordability issues to be linked with and handled in the PPBS.
- Sufficient early planning (Pre-Milestone II) will be required to support selected degree of concurrency and risks.
- Emphasize limited initial production rates as part of Milestone II decision. Utilize Test & Evaluation (T&E) as check points and require verification of operational effectiveness and critical suitability elements prior to approval to proceed to full production rate at Milestone III.

ADVANTAGES:

- Shortens acquisition cycle time; field systems sooner.
- Potential reduction in economic inflation cost by reduced acquisition time.
- Concurrency emphasis consistent with DOD/OMB direction.
- Expedites completion of development through earlier evaluations of production type equipment.
- Enhances continuity of total program by smoothing transition from development to production.
- Provide flexibility to tailor acquisition to specific needs in both PPBS and Acquisition processes.

DISADVANTAGES:

- Delegation of Milestone Decisions below the Agency Head level may be perceived as being inconsistent with A-109.
- Greater investment risk by larger funding at earlier stages of acquisition. Potential for additional RDT&E funding before Milestone II to reduce risks.
- Higher probability of modification requirements for initial and subsequent production buys.
- Could generate big cost/effectiveness surprises late in acquisition cycle.
- Possible redundancy in the initial development of potential joint development systems.
- SECDEF flexibility restricted by lack of involvement prior to Milestone II.
- Delays consideration of NATO Rationalization, Standardization, Interoperability (RSI).

OUTSIDE FACTORS:

- Requires SECDEF delegation of authority to Services. May require waiver of portions of A-109.
- Congressional understanding of our intent and support of enabling legislation to allow transfer of funds between appropriations without prior notification.

IMPROVE DSARC PROCESS

Alternative Three

BRIEF OVERVIEW: Improve the acquisition decision process, from development through fielding a usable capability, by implementing program cash flow thresholds as the basis for major DSARC level program reviews.

PROBLEM: Current Milestone I, III, & III requirements for DSARC review require extensive documentation and pre-briefing time for each of these reviews. This burden leads to stretchouts in the early development phases and dilutes the Program Manager's (PM's) ability to properly manage the program. In addition, these milestones are not phased with efficient program outlays. The timing of these reviews (Milestone I & II) results in premature cost, schedule, performance and supportability estimates, and interfere with implementing the best possible business strategy and funding decisions.

The current system is not directly related to the volume of government cash commitments and expenditures, as shown on the attached diagram. The milestone decisions are being made during a low funding requirement period (O, I, & II) and Milestone III is made after the major commitment to the program is initiated.

DISCUSSION: This proposal would reduce the number of DSARC level reviews. It would establish and phase two key OSD review points on major programs for Requirement Validation and Program Go-Ahead, in such a manner to be consistent with the anticipated cash flow profile and level of risk for the program. The current DSARC Milestone III Review would be eliminated. Approval for full-rate production and deployment would be made by the service acquisition executive. SECDEF would be provided executive summary of internal service review to validate compliance with SECDEF decision established at Program "Go-Ahead". Although the phasing of the revised decision process provides a major Program Go-Ahead decision occurring at a higher incurred cost investment point, cost uncertainty for development, production, and deployment is reduced. Revised Milestone/Decision points are:

1. Decision 1 - Requirement Validation (combined present Milestone O and DSARC I).

Services would validate threat, evaluate system alternatives and select general concept/technology needed, identify high cost and schedule risk technology, assess affordability of possible systems, establish schedule and cost windows for the solution including Not-to-Exceed (NTE) cash flow threshold, and commit to the demonstration and start of development of a system. Gross

levels (Goals) would be established for cost, schedule, technical performance, readiness and associated quantitative risks. Operating and support concepts will be developed in conjunction with establishing a complete acquisition approach. A DSARC review would be made by OSD for program initiation to satisfy mission area requirements. The decision would provide specific service development/acquisition approval and/or designate the "lead service" for Joint Service Programs. Review/approval of intermediate milestones/documentation would be the responsibility of the designated service development/acquisition executive, i.e., the transition from early engineering development to start of Full Scale Development (FSD) would be accomplished by internal service review/approval. SECDEF would be provided informational executive summaries of key decisions/ planning documentation for comment by exception up to Program Go-Ahead decision.

2. Decision 2 - Program Go-Ahead

Services would revalidate threat, select a system configuration, commit resources to the completion of development and low level production, review firm costs and establish cost, schedule technical and readiness objectives. High risk areas for concurrent development would be identified with tradeoffs for interim capabilities pending later incorporation of high risk capability. A DSARC review would be based on a previously established NTE Program "cash flow" threshold. The threshold would occur at or near the FSD Critical Design Review (CDR) point. Program design maturity at this point would ensure that DSARC principals were provided better cost, schedule, performance and supportability estimates in assessing program risk. SECDEF approval for program "go-ahead" would provide a commitment to complete FSD, start low-rate initial production, and initiate production readiness efforts for full-rate production/deployment.

3. Decision 3 - Production/Deployment Readiness Review

Services would review for go-ahead of full rate production and deployment. They would compare progress against Decision 2 stated goals, assess demonstrated suitability, commit service resources to the full-rate production, review high risk development/test progress for possible incorporation/retrofit, and establish production completion. The program review would be conducted by the Service Acquisition Executive upon completion of adequate operational test and report decision to OSD.

4. Decision 4 - Post Deployment Review

Services would assess operational effectiveness and achievement of system cost, technical performance and operational readiness/supportability against approved goals and plan for follow-on incorporation of technology-deferred capability because

of previous high risk. This review would be conducted by each service at system maturity (approximately 2-3 years after IOC) and reported to OSD.

ADVANTAGES:

- Fosters decentralization of acquisition process.
- Provides increased service flexibility in structuring/-managing total development/acquisition.
- Reduced review at OSD level. Reduces front end decision time. Gives the program manager more time to dedicate to effectively managing the program.
- Review CDR provides more definitive assessment of program risks and realistic cost, schedule, performance and supportability estimates.
- Design and early critical, technical, subcomponent testing 40-60% complete at Program Go-Ahead.
- Could increase contractor incentive to meet system requirement, schedule and cost by obtaining an early go-ahead to proceed into production.
- Would allow better planning for critical transition from FSD to production with reduced risk of stretchout.
- Provide more flexibility for infusion of higher risk technology without inhibiting early system deployment.

DISADVANTAGES:

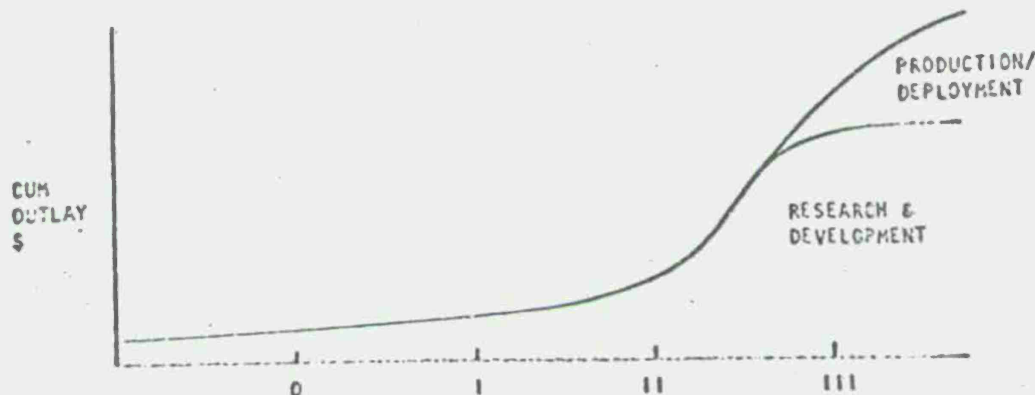
- Requires greater commitment of funds prior to SECDEF approval.
- Since requirements may change, initial DSARC review/approval for program start is more critical. Reduced capability for formal interface to impose changes.
- Decreased OSD visibility.
- Program goals/thresholds established later.
- Decreased OSD role in production.
- Requires additional internal service reviews.
- Opportunity for increased FSD time if decision is postponed.

- No specific fiscal thresholds to trigger SECDEF review.

OUTSIDE FACTORS:

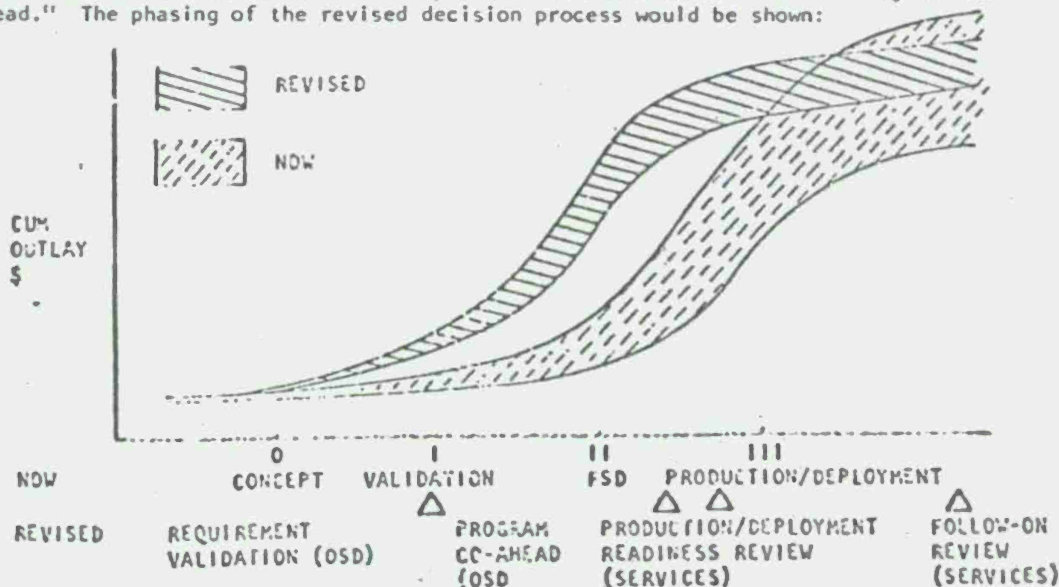
- Portions of OMB circular A-109 may have to be waived.
- Impact of Budgetary and Congressional Review.

WAY IT IS DONE TODAY: Reviews are held at DoD and Service level at the following points: 0 - start of conceptual phase, I - start of validation phase, II - start of FSD, and III - start of production. These points are generally not related to government cash commitments and expenditures, but are phased as shown:



This process shows that the milestones decisions are being made during a low funding requirement period (0, I & II) and one is made after the major commitment to the program is initiated.

SPECIFIC RECOMMENDATION: Reduce the number of DSARC level review(s). Establish and phase two key OSD review points on major programs for Requirement Validation and Program Go-Ahead, in such a manner to be consistent with the anticipated cash flow profile, and level of risk for the program. The current DSARC Milestone III Review would be eliminated with the approval for full-rate/deployment by the Service acquisition executive. SECDEF would be provided executive summary of internal Service review to validate compliance with SDDM established at Program "Go-Ahead." The phasing of the revised decision process would be shown:



This revised cash flow process shows that although the major Program Go-Ahead decision occurs at a higher incurred cost investment point, the band of uncertainty for the high level of development, production and deployment cost is narrowed with a corresponding reduction in program cost.

IMPROVE DSARC PROCESS
Alternative Four

OVERVIEW: Decentralize Acquisition Management Back to the Services.

PROBLEM: An indication of the magnitude of the excess management that has developed is found in the number of times a program manager must brief his various bosses before he is allowed to approach a DSARC milestone review. The DSARC III for the F-16 aircraft required the program manager to make 56 prebriefings. Similarly, 42 pre-DSARC briefings were required for the JTIDS program, 40 for the Patriot air defense system, and 72 for the F-18 aircraft and 86 for ALWT.

Overcentralization of the management of the details of the diverse weapon system acquisition process has resulted in an unnecessarily large bureaucracy with wasteful and time consuming decision processes, diffused lines of authority and responsibility, and inefficient program management. the current centralized system is built around the DSARC structure for major programs, an administrative system, and OSD involvement in the details of program management. The Services have emulated this system by establishing similar review committees and paperwork requirements for these same programs and for Service managed programs. An extensive program to select and train highly qualified program managers has not been met with a reduction in the layers of supervision over them. With the growth of management layers has come a diffusion of authority and responsibility in the acquisition system. Program managers still have personal responsibility for their programs, but authority over them has been left in the hands of these numerous management layers above and below the Service Secretary who do not have commensurate responsibility or accountability for the results of their decisions. Also, because the current process encourages DSARC committees to revisit decisions previously approved by Service Secretaries, an adversarial relationship between the Services and the OSD staff has developed. This fosters mistrust and the masking of serious program problems until late in the acquisition process.

DISCUSSION:

This alternative avoids centralized control based on general propositions and ritualistic compliance mechanisms by decentralizing to the management level most qualified and experienced to manage.

Retains a management by exception authority at the Secretary of Defense level. Trust in the Services that must fight with weapon systems to acquire them properly is restored. Highly qualified program managers are given authority equal to their responsibility. Oversight is performed by a minimum number of top level managers.

RECOMMENDATIONS:

- Make Services the agencies for acquisition of their weapons again.
- Disestablish DSARC as a review body and cut back on DOD micro management. SECDEF direct the Services to do the same and follow-up on compliance.
- Single acquisition executive for each Service within the Service Secretariat. DOD Acquisition Executive to manage by exception for SECDEF. Control by SECDEF through PPBS.
- Permit Services to make affordability trade-offs under ceilings established by OSD/Congress. Permit Service reprogramming of RDT&E and production funds to facilitate transition to production or back to RDT&E.
- Services to determine when systems are ready for production. PPBS system to decide when to produce and how many to produce based on affordability.
- Services approve need documents and provide copies to OSD for roles and missions reviews.
- OSD involvement in resolving Joint Service program issues.

ADVANTAGES:

- Consistent with current law which places negotiation and other contracting authority with the Service Secretary.
- Doable now because Services already manage and review programs prior to the duplicative DSARC review process.
- Save the substantial cost of running a duplicative bureaucracy.
- Increase program stability by reducing the opportunities for redirection.
- Speed up the process by reducing the opportunity for delays caused by review sequencing problems.
- Restore trust and confidence in the Armed Services and their project managers with attendant improvement in retention rates among our best personnel.

DISADVANTAGES:

- Beneficial ideas that develop during DSARC reviews could be missed.
- Possibility of suboptimizing solutions at the Service level would increase.
- Perceived as a weakening of SECDEF control - OSD staff changes from active, detailed management to management by exception.

MENS Content and Processing

Idea: Reduce MENS content and processing time; integrate with POM submission and review.

Problem:

- Frequently, more detailed information than required is provided in initial MENS submissions to OSD, and even more detailed information is often requested by OSD after review. MENS frequently run 10 pages in length even though 5 pages or less are directed. This causes delays and increased paperwork.
- In addition, MENS are not linked to the PPBS process, and it is therefore possible to include funding in the POM for a major system new start before a MENS is submitted, or to submit a MENS without having identified funds in the POM for development and production of the new system.

Way it is done now:

- MENS review and comment cycles are lengthy and not necessarily tied to fiscal reality.
- The current DODI 5000.2 MENS format includes identification of the mission area, the basis for the need in terms of the threat, existing (and planned) capabilities to accomplish this mission, an assessment of the inadequacies of these present capabilities, constraints, and resources and schedule to meet Milestone I. DODD 5000.1 and DODI 5000.2 both state: Do not exceed 5 pages. OMB Circular A-109 says the need should be defined in terms of the mission, purpose, capability, agency components involved, schedule and cost objectives and operating constraints.

Recommendation:

- Tie MENS to POM and budget process to force timely decisions.
- Reduce paperwork by one of the following options:
 - Enforce current provisions of 5000.1/.2; keep MENS to 5 pages or less
 - Reduce current 5000.1/.2 format requirements in constraints section, specifically, paragraphs 4 and 5, which require

- Logistics, safety, health, energy, environment, and manpower considerations
- Standardization or interoperability with NATO and among DOD Components
- Reduce MENS length to 3 pages or less
- Drop current MENS format and instead use congressional data sheet format, which already is part of POM submission. This might be especially useful when taking advantage of a technological opportunity. Milestone 0 approval could occur as part of SECDEF decisions in the PPBS cycle and still be recognized as an explicit milestone.

Advantages:

- All three alternatives would streamline current Milestone 0
- All three alternatives are compatible with the spirit and intent of A-109.
- More timely decisions and integration of acquisition front end with PPBS.

Disadvantages:

- Some loss of SECDEF visibility/influence early in the process.

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POST MILESTONE III REVIEW

IDEA: Conduct a Service review of weapon system and logistics support status approximately 1-2 years after IOC.

PROBLEM: There is no centralized visibility beyond the (S)SARC/DSARC process of fixes needed to bring weapon system goals and support plans to fruition. Problems take years to fix in the field.

WAY IT IS DONE NOW: Acquisition reviews currently end at Milestone III, although reliability and logistic development are incomplete at that point. Support problems are identified piecemeal as test and field experience is gained. Requirements for product improvements and support resources go into a variety of hopper and compete for funding in the PPBS with no visibility of the overall weapon system support problem.

SPECIFIC RECOMMENDATION TO IMPLEMENT IDEA: Conduct Service reviews of follow-on test results and early field experience (schedule established at Milestone III). Assess operational effectiveness and suitability, and review cost, performance and operational readiness against SDDM goals and thresholds. Review weapon system and support improvements needed to meet readiness objectives, and pre-planned product improvement requirements, against programmed resources.

ADVANTAGES:

- Reduces supportability risk associated with a shortened acquisition cycle.
- Supports clear commitment in PPBS to fix weapon system and logistic problems.
- Motivates Program Manager to pursue system development and logistic objectives to completion.
- Identifies problems, proposed fixes to improve readiness earlier.

DISADVANTAGES:

- Adds another review to PM and service staff workloads.

Name of Submitter: Michael F. McGrath
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PRE-PLANNED PRODUCT IMPROVEMENT (P³I)

Brief Overview: P³I is a systematic and orderly acquisition strategy beginning at the systems concept phase to facilitate evolutionary cost effective upgrading of a system throughout the life cycle to enhance readiness, availability and capability. The modular baseline configuration design shall permit growth to meet the changing threat and/or to take advantage of significant technological and/or operational opportunities through future modifications or product improvements at appropriate time intervals. The baseline technological risk will be minimized and provide early availability by utilizing well known and established technology to the maximum extent feasible, limiting advanced technology to the subsystem(s) offering substantial operational or cost benefits.

Problem: To overcome shortfalls in desired procurement funds.

Discussion: One of the very basic objectives of P³I is to lower overall acquisition costs. To the extent that P³I can extend equipment useful life -- as well as minimizing the technological growth between successive models, then P³I can have an important impact on slowing the rate of force obsolescence, and in avoiding force reductions at a time when our defense strategy is growing more demanding. P³I also attempts to lower the initial risks in new systems, and to defer obsolescence. In the P³I scheme, more, smaller steps are taken to improve system performance, instead of fewer, larger steps.

Advantages:

- A somewhat shorter development time, since less performance would be demanded from the first operational system.
- Lower initial performance demand should reduce development risk and cost.
- Beyond the midpoint of the program, fielded performance should be higher, as product improvements continue to be included.
- Higher ultimate performance should permit a longer effective operational life.

Disadvantages:

- P³I competes with more glamorous new starts.
- Current Congressional attitudes are not conducive.

- Parallel R&D & Procurement may draw questions.
- Growth provisions may be labelled "gold-plating."
- Growth provisions could damage initial competitive position.
- May raise total front-end costs.

Recommendation: Incorporate P³I into program plans by Milestone II.

Name of Submitter: Col H.B. Love
Office: DAMA-AR x51447

DEFENSE ACQUISITION EXECUTIVE

Issue: Who should be the Defense Acquisition Executive (DAE)?

Discussion: Current DOD directives require that a DAE shall be designated by the SECDEF to be the principal advisor and staff assistant for the acquisition of defense systems and equipment. The Under Secretary of Defense Research and Engineering is currently designated as the DAE and as such he chairs the DSARC. The ongoing review of the Defense Acquisition System has highlighted lack of fiscal discipline, i.e., too many acquisition programs at a given funding level, as a characteristic of the present system that must be improved. One means of insuring that DSARC decisions are affordable is to require that they be consistent with the resource allocation decisions implicit in the PPBS.

Options: The Defense Acquisition Executive, most reasonably, could be either the USDR&E, a USD for Resources, or the DEPSECDEF.

- USDR&E - The USDR&E is clearly the staff officer with the greatest technical knowledge and expertise regarding systems development. But his primary responsibility is modernizing the force as opposed to operating, maintaining, or supporting that force. The current arrangement makes it difficult to balance our desire that today's force be capable with the sometimes competing objective that tomorrow's force not be obsolete.

- USD, Resources - While such a position would insure an improved balance among competing claimants for procurement funding, this option would result in additional unnecessary management layering.

- DEPSECDEF - This option would also provide for improved balance between modernizing and operating the force. A more coherent defense program would result from having DEPSECDEF chair both the DRB and the DSARC. The DEPSECDEF has traditionally functioned as the "operating executive" of the Department. As such he is not a proponent and is in a better position than the USDR&E to balance competing demands for funds. But the proposal would increase the level of DEPSECDEF involvement in the acquisition process.

MAJOR SYSTEM COST THRESHOLDS

Idea: Establishing more appropriate and flexible thresholds for the designation of a major system can contribute to more stable and effective major systems acquisition by ensuring that only the most expensive systems are subjected to DSARC reviews in accordance with OMB and DOD directives.

Problem: The rapid increase in new major systems and the unanticipated cost growth of recent years has produced an operational overload on the DSARC and PPBS systems. Steps should be taken to reduce the burden on both systems while continuing to ensure that major investments in meeting our national security needs are efficiently and effectively made.

Way It Is Done Now: The applicability of DODD/I 5000.1/.2 is confined to those systems which the DOD components anticipate will cost in excess of \$100M (FY80 dollars) in RDT&E funds or \$500M (FY80 dollars) in procurement funds.

Specific Recommendations to Implement Idea: Raise the dollar thresholds for major system designation to \$200M RDT&E and \$1B procurement and index these thresholds to inflation guidelines on an annual basis.

Advantages:

1. The workload for service SARCs and DSARC would be substantially reduced, while still insuring review of our most expensive major systems.
2. By indexing the thresholds to inflation, designation of major systems need not be pegged to outdated guidelines.

Disadvantages: Approximately 25 percent of the systems presently on the major systems list would no longer be reviewed in accordance with DODD/I 5000.1/.2. The cumulative costs of these systems represents significant expenditure of resources which will be subject to lower levels of scrutiny than those outlined in the DOD directive and instruction.

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X70975

FISCAL FLEXIBILITY

Issue: Provide flexibility to transfer individual weapon system Procurement funds to RDT&E without prior approval of OMB and Congress.

Problem: PPBS requires that we budget procurement funds 18 to 24 months prior to actual need date to transition acquisition programs from R&D. Since all development programs are success oriented, frequently the pre-planned procurement dates arrive and the system is not ready to buy. Because procurement funds have been budgeted there is considerable pressure to use them rather than risk their loss due to program delay. If the Secretary (and/or Military Departments) had the authority to move these procurement funds to R&D to correct deficiencies, without the prior approval of OMB and Congress, it should measurably decrease the time involved in resolving such problems.

Sec 734 of P.L. 96-527 (DOD Appropriations Act) provides a general authority for Transfers, not to exceed \$750M between DOD appropriations. Its use requires a determination by SECDEF that such action is in the National Interest and must have prior approval by OMB. SECDEF shall notify Congress promptly of all transfers. Our current reprogramming arrangements (administrative) within the Committees have led to the interpretation that any transfer is of "special interest of the Congress" and requires their prior approval.

The proposal would, of course, have to have the support of our four oversight Committees and OMB. Ideally, such approval should be included in the general provisions of the Appropriations Act as a sub-section of 734. The Congress would have to be convinced that this authority would apply only to the movement of funds programmed for an individual weapon system, and not a wholesale license to move procurement funds to RDT&E. It should also be recognized that procurement funds diverted to RDT&E would of course have to be budgeted again in subsequent appropriation requests - usually at a high amount due to inflation.

Another potential con is that although individual Defense Programs are presented and reviewed by the authorization and appropriation committees, they authorize and appropriate total dollars by appropriation not by line items. Pursual of this transfer authority for individual programs could jeopardize the current system.

Recommendation: That the Secretary of Defense (through General Counsel) propose an amendment to the general provisions of the appropriation act that would allow the Secretary of Defense to approve the transfer of funds in a given fiscal year from Procurement to RDT&E for an individual weapon system when the Secretary determines that it is in the national interest to do so.

AFFORDABILITY: DSARC/PPBS INTERFACE

Issue: There have frequently been "disconnects" or lack of an effective interface between the DSARC and PPBS processes resulting in disruption to acquisition programs and confusion regarding program status.

Problem Description: The DSARC process reviews single programs at significant milestones to determine readiness to proceed to the next phase. In contrast, the PPBS addresses all programs within a resource allocation framework. DSARC milestone decisions are sometimes made without adequate consideration of resource availability to execute the program under considerations. Furthermore, changes to program funding resulting from other considerations during the PPBS cycle undermine program acquisition strategies endorsed by the DSARC. The lack of explicit resource commitment (including support and manpower) resulting from a successful DSARC review and SECDEF approvals frequently cited as a flaw in the Acquisition Process.

Options for Improvement:

A. The Defense Acquisition Executive (DAE) would enforce current provisions of DODD 5000.1 and DODI 5000.2 which provides that request (to the DSARC) to proceed into the next acquisition phase shall be accompanied by assurance that sufficient resources are or can be programmed to execute the program as directed by SECDEF. This would lead to DSARC endorsement of fiscally executable programs. Affordability in the aggregate would be a function of the PPBS Process.

B. Continue present practice (which in many cases violates current policies) of not considering affordability at DSARC reviews. Make DSARC recommendations without regard for budget limitations. This will result in continued recasting of fundamental acquisition strategies which are not supported in PPBS cycles and will continue to foster program instability.

28 March 1981

THE ROLE AND AUTHORITY OF THE PROGRAM MANAGER

No universal agreement exists as to how the Program Manager should do his job. He is expected to introduce a critical weapon system at or below cost and on schedule. He is also expected to meet or better performance requirements. If at any time from the Conceptual to the Deployment Phase, these interdependent parameters do not balance, the Program Manager, alone, is ultimately responsible for sorting out problems and initiating aggressive corrective action. If he can't do it, someone who can will be found. Thus, being named a Program Manager doesn't ensure job security -- nor should it. He must continually strive to optimize time, cost, and total system performance. In doing so, he'll have to develop and employ judgment relative to financial management, system engineering, test and evaluation, procurement, contract management, production and many other functions. His individual style of management must be geared, to the unique requirements of the program for which he's responsible.

Similarly, there is no set or prescribed way to organize a Program Office. The Program Manager must have relative freedom to tailor the organization. Consequently, the specifics of the Program Office may vary.

The general role, authority of the Program Manager is well documented in DoD, Service and Major Command publications. Specifically, his role and authority is established by his charter. However, his published role and authority is diluted by staff executives who can delay, interrupt or revisit decisions previously approved. The Program Manager is placed in the unenviable position of bucking the layers or acquiescing.

The Program Manager's operating environment does not ensure his responsibility for all elements of the system. Often because of management barriers and funding practices, the program Manager is not and does not feel responsible for the complete system. Consequently, decisions are made which may adversely affect the complete system in areas not under the direct control of the program manager. This perceived detachment from total program responsibility is usually manifest in the support areas.

To help reverse the situation, DoD and the Services should reaffirm and enforce the following authorities, responsibilities and functions of the Program Manager:

- Exercising sole responsibility for all aspects of the programs.
- Preparing and maintaining acquisition strategy and supporting plans.
- Conducting trade-off studies and making trade-off decisions among program performance, cost, risk, and schedule within approved constraints and thresholds.
- Approving system designs, engineering releases for production, engineering changes and engineering reports.
- Ensuring proper selection, tailoring, and application of techniques and management disciplines required to achieve a sound design.
- Ensuring that contractual actions are appropriate for the characteristics (e.g. risk) of the program.
- Ensuring communications, actions, or inactions in any form that might be interpreted as directional to a contractor shall be related to funding, performance, schedule, management, etc., are communicated to the appropriate decision authority in a timely manner.

Very often the Program Manager regards the lack of direct responsibility for certain elements of decision-making as impediments to this authority. OSD, Service or Command approvals are required in areas such as major program decisions, procurement release, business strategy selection, funding decision, requirements approvals, personnel assignments, and operating and support decision. The requirement for these higher level decisions can demotivate some Program Managers to give the "company" answer. In addition, regulations and directives, such as appropriation and procurement restrictions, may prohibit certain approaches. Thus, opportunity may be lost to reduce program cost and improve system support through innovation.

We should motivate Program Managers to propose ideas in program plans and reviews which will improve program stability and reduce cost even though regulations or directives exist counter to the proposal. In addition, Program Managers should identify roadblocks actively and provide means to implement and gain acceptance of an unconventional approach.

TEAM E

MULTIYEAR PROCUREMENT

Defense Acquisition Process
Working Group

27 March 1981

MULTIYEAR PROCUREMENT

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ENHANCED USE OF MULTIYEAR PROCUREMENT

BACKGROUND

There is much interest in DoD, the Congress, and industry to modify the way in which the Governments' budgeting, appropriations, and contracting procedures affect its procurement of weapon systems. Changes which would permit the funding of multiyear contractual arrangements could result in average dollar savings of 15% per contract through improved economies and efficiencies in production processes, better utilization of industrial facilities, enhanced attractiveness of and competition for Government requirements, and a reduction in the administrative burden in the placement and administration of contracts. These advantages strongly outweigh the merits of the more conservative and traditional approach to weapon system procurement now employed.

It is important to recognize, however, that some potential disadvantages exist. For example, long term (multiyear) commitments add to risks assumed by both the buyer and seller and they result in a decrease in flexibility in the annual budgeting, authorization, and appropriation processes. These matters have been perceived in the past by elements of the Administration and the Congress to be sufficiently important to inhibit widespread use of multiyear contracts. If selectively applied and based on benefit/risk analyses, it is apparent that DoD can realize far greater value from these concepts than it has in the past.

DISCUSSION

The team assigned to work on multiyear concepts and procedures was composed of a mix of departmental, and OSD financial management (Comptroller), acquisition policy, and legal personnel. Its principal efforts were devoted to a clarification of terms relating to multiyear procurement (MYP) which in many cases have been ambiguous and confusing; to the clarification of variable concepts which can be used to meet different procurement situations; and to the development of budget plans and control procedures for MYP programs.

Recognition was given to the existence of a viable multiyear concept as currently set forth in the Defense Acquisition Regulation. Generally, it is suitable for smaller dollar purchases and for certain operation and maintenance contractual requirements. What appears to be needed more than anything else within the DoD management structure is an awareness at all levels of program and financial management that (1) MYP for weapon systems is desired and will be supported; and that (2) concepts exist for selective application to various programmatic situations. Program managers should develop appropriate strategy incorporating multiyear concepts which should be approved within the Military Departments and supported by OSD.

CONCEPTS

The following is an outline of concepts:

1. Currently authorized full funding for:

- (a) Classical multiyear contracts with cancellation cost provisions to allow reimbursement of unrecovered non-recurring costs (set forth in DAR 1-322).

- (b) Advanced buy - with financing - of long lead components (set forth in DoDD 7200.4).

2. Advanced multiyear concepts which provide for:

- (a) Extension of advanced buy concepts to include economic order quantities for more than one fiscal year contract requirements for material or components.
- (b) Contracts for more than one year's end item requirements with expanded advanced procurement of materials, components, and their associated labor for items in the outyears.
- (c) Funding to termination liability for increments of work based on economic production considerations.

These concepts are intended to provide for maximum use of full funding of annual requirements (or entire programs) which present minimal risks; and for commitments for economic production runs for end items, materials, or components for which risks can be considerable if the program has to be changed or terminated.

ADDITIONAL CONSIDERATIONS

Four Committees in Congress have a strong interest in MYP: the two Armed Services Committees; and the two Appropriations Committees. The former are expected to support expanded use of these concepts; the latter may be reluctant to accept because of a reduction in their annual control of programs, purchase and funding commitments that will pass from one term of Congress to another, and a concern for DoD ability to manage within acceptable risks.

Congressman Daniel recently introduced H.R. 745, a bill that advocates greater use of MYP and removes several existing statutory hindrances. It has been the DoD position that repeal of the statutory ceiling on contract cancellation ceilings and elimination of the prohibition against multiyear contracts in the Continental United States funded by annual operation and maintenance appropriations are sufficient to permit enhanced use of MYP. However, the clear expression of statutory intent and authority encompassed by H.R. 745 removes any doubt or concern as to this authority. The DoD should support the general thrust of this bill.

DoDD 7200.4 and the Defense Acquisition Regulation prescribe funding and contracting procedures which are not as flexible as the concepts and policies advocated in this paper. However, changes to these directives are not essential in order to begin the expanded use of these procedures for specifically designated weapon systems. Program-by-program waivers are feasible and probably desirable pending development of information upon which revisions to the directives can be based.

RECOMMENDATIONS

- 1. Indorsement of MYP policy by the SecDef/DepSecDef.
- 2. Briefing of appropriate Congressional committee staffs on procedures and concepts.
- 3. Issuance of special policy memorandum to Military Departments after Congressional briefings.



OFFICE OF THE SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

MEMORANDUM FOR DEPUTY SECRETARY OF DEFENSE

SUBJECT: Multiyear Procurement

Multiyear procurement, a concept that has been recognized in various forms for many years, has been advocated recently in various circles as a method for increasing the economy and efficiency of the Defense acquisition process. The concept has been analyzed as a part of the systems acquisition review process which you called for on March 2, 1981.

On balance because of the impressive potential cost savings, the multiyear contracting team concurred that the advantages resulting from using multiyear concepts for procurement greatly outweigh the disadvantages. However, it is important to recognize the potential disadvantages in order to avoid them. In that context, we are recommending extensive use of multiyear contracting based upon a case-by-case benefit/risk analysis. Criteria have been recommended as general guidelines to screen potential multiyear candidates.

Despite the potential problems with multiyear procurement, we believe that the DoD should aggressively pursue this concept.

As an interim near-term goal we intend to seek Congressional approval to utilize multiyear procurement for a few well chosen weapons programs. Several candidate programs have been identified for possible multiyear application and additional data supporting anticipated savings is in the process of being submitted by the Military Departments. The initial step to integrate multiyear procurement into our normal planning process was initiated on 16 January 1981 by requesting the Military Departments to propose future multiyear candidates through the POM process starting in FY 1983.

Recommendation:

That you approve the concept as set forth in the attached Special Memorandum.

Approve _____ Disapprove _____ See Me _____

If you approve we will initiate contact with the Congressional Committee staffs to discuss the concept and prepare an implementation memorandum for your decision as soon as possible.

Enclosure
As stated



RESEARCH AND
ENGINEERING

OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

SUBJECT: Special Memorandum on Multiyear Procurement

POLICY

It is the policy of the Department of Defense (DoD) to acquire required property and services in the most economical manner, consistent with sound management. Property and services should, when practicable, be acquired at times and in quantities that will result in reduced costs to the Government and provide incentives to contractors to improve productivity through investment in capital facilities, equipment, and advanced technology. For quantity production, contracts should be structured and funded wherever possible to benefit from economies of scale where such economies can be attained at an acceptable level of risk to both the Government and the contractor.

The economies and efficiencies of multiyear contracts shall be balanced against risks from unstable operational, technical, design, or quantity requirements. Planning shall be conducted sufficiently early to permit inclusion of monetary requirements and the multiyear concept adopted in the appropriate budget documents.

Development of the strategy involving multiyear concepts shall be the responsibility of program, system, support, or commodity managers in close cooperation with contracting and financial management specialists. Deviation from the provisions of Defense Acquisition Regulation (DAR) 1-322 and DoD Directive 7200.4 shall be authorized on a case-by-case basis by appropriately designated Departmental officials in conformance with the provision of this memorandum. Revisions to these two documents shall be made by the DAR Council and the Assistant Secretary of Defense (Comptroller) after determining what changes should be made.

DEFINITIONS

Terms that shall be used for multiyear procurement actions are defined in attachment 1. The definitions may vary from currently accepted uses of the terms to conform to the new policies and procedures contained in this memorandum.

CRITERIA

The process of deciding to use or not to use special economic concepts for procurement requirements requires management judgment. The following criteria shall be considered:

1. Significant benefit to the Government;
2. Stability of requirement, configuration, and funding;
3. Degree of confidence in cost estimates and contractor capabilities.

CONCEPTS

Full funding of annual requirements and entire programs is the preferred method. Contractual commitments for support of outyear end items are authorized but shall be made only after careful assessment of benefits versus risks. The following depicts the spectrum of primary alternatives for weapon system acquisitions:

1. Full funding - Congressional obligation authority (OA) for fully financing any quantity of end items in a single fiscal year. Currently two partial exceptions to the full implementation of this policy are authorized and extensively used for weapon system application.

(a) Classical multiyear procurement - A contract covering more than one year's requirements but budgeted and financed in annual increments. The contractor is protected against the loss resulting from cancellation to allow reimbursement of unrecovered non-recurring costs.

(b) Advanced Procurement - Financing of long lead components in a fiscal year in advance of that in which the related end item is to be acquired.

2. Advanced Multiyear Concepts - A spectrum of contracting and financing authority which will permit more economic and efficient acquisition of weapon systems which meet established criteria.

(a) Full Funding with Expanded Advance Buy - Extension of advanced buy concepts to include economic order quantities for more than one fiscal year contract requirements.

(b) Multiyear with Expanded Advance Buy - Identical to classical multiyear with advance procurement of materials, components and their associated labor for end items in the outyear portions of the contracts. Economic lot buys of such materials and components will be permitted based on established guidelines/criteria.

(c) Funding to Termination Liability - Funds are appropriated for specific increments of work to be accomplished during the fiscal year for which the funds are approved. Increments of work are based on economic production considerations of the total end items on contract (including block buy quantities) but are generally not segregated to a specific subset of the total quantity. This concept has only limited application to production rate type programs and should be considered as an exception to normal procurement financing.

BUDGET PLAN

Budget plans for multiyear procurements shall be in accordance with attachment 2.

MONITORING

Existing procedures shall be reviewed to ensure that they adequately provide the mechanism for monitoring and controlling the progress of those programs selected for multiyear procurement.

APPLICABILITY

These principles are applicable to preparing budget submissions and justification material for FY 1983 and beyond. They are also applicable to FY 1981 and 1982, but since they may deviate from material submitted to the Congress and how Congress provided fund authorizations and appropriations, they may require the use of reprogramming procedures before they can be used.

IMPLEMENTATION

Wherever the planned acquisition of property or services for FY 1983 and subsequent years meets the criteria set forth above, program, system, support, or commodity managers should formally evaluate the potential value of MYP to reduce costs. Where conditions appear feasible, requests for proposals for FY 1983 and subsequent year requirements should require both annual year and multiyear proposals. Upon release of the RFP, or as soon as possible, request for deviation to DAR and DoDD 7200.4 should be forwarded for case-by-case approval by appropriately designated Departmental officials. Solicitations should request proposals for the MYP effort to remain valid for a period of time consistent with obtaining any required deviations to current directives.

Enclosures
As stated

DEFINITIONS

Advance Procurement. An exception to the full funding policy which allows procurement of long leadtime items (advanced long lead procurement) or economic order quantities of items (advance EOQ procurement) in a fiscal year in advance of that in which the related end item is to be acquired. Advance procurements may include materials, parts and components as well as costs associated with the further processing of those materials, parts and components.

Annual Funding. The current Congressional practice of limit-int authorizations and appropriations to one fiscal year at a time. The term should not be confused with two year or three year funds which permit the Executive Branch more than one year to obligate the funds.

Block Buy. Buying more than one year's requirement under a single year's contract. A total quantity is contracted for in the first contract year. Block buys may be funded to the termination liability or fully funded.

Cancellation. A term unique to multiyear contracts. The unilateral right of the Government not to continue contract performance for subsequent fiscal years' requirements. Cancellation is effective only upon the failure of the Government to fund successive FY requirements under the contract. It is not the same as termination.

Cancellation Ceiling. Upon cancellation, the maximum amount that the Government will pay the contractor for nonrecurring costs (and a reasonable profit thereon) which the contractor would have recovered as a part of the unit price, had the contract been completed. The amount which is actually paid to the contractor upon settlement for unrecovered nonrecurring costs (which can only be equal to or less than the ceiling) is referred to as the cancellation charge.

Expenditure Funding. Government funds the contractor's expenditures plus termination liability. Synonymous with funding to termination liability and.

Full Funding. Funds are available at the time of award to cover the total estimated cost to deliver of a given quantity of complete, military useable end items or services. Under current policy (DOD Directive 7200.4), the entire funding needs of the fiscal year production quantity must be provided unless an exception for advance procurement has been approved. A test of full funding is to ask the question, Does any part of this year's buy depend on a future year appropriation to result in the delivery

of complete units? If the answer is yes, the contract is probably not fully funded. The principle of full funding applies only to the Procurement Title of the annual appropriation act and therefore affects production contracts but not RDT&E contracts.

Incremental Funding. Funds are not available at the time of contract award to complete a fiscal year's quantity of end items in a finished, military useable form. Future year appropriations are required in order to complete the items or tasks. Incremental funding is commonly used for RDT&E programs.

Multiyear Contract. A contract covering more than one year's but not in excess of five year's requirements. Total contract quantities and annual quantities are planned for a particular level and type of funding as displayed in the current FYDP. Each program year is annually budgeted and funded and, at the time of award, funds need only to have been appropriated for the first year. The contractor is protected against loss resulting from cancellation by contract provisions which allow reimbursement of unrecovered nonrecurring costs included in prices for cancelled items.

Multiyear Funding. A Congressional authorization and appropriation covering more than one fiscal year. The term should not be confused with two year or three year funds which cover only a one fiscal year's requirement but permit the Executive Branch more than one year to obligate the funds.

Multiyear Procurement. A generic term describing situations in which the Government contracts, to some degree, for more than the current year requirement. Examples include multiyear contracts, block buys, advance EOQ procurement. Generally, advance long lead procurements in support of a single year's requirement would not be considered a multiyear procurement.

Nonrecurring Costs. Those production costs which are generally incurred on a one time basis include such costs as plant or equipment relocation; plant rearrangement; special tooling and special test equipment; preproduction engineering; initial spoilage and rework; and specialized work force training.

Recurring Costs. Production costs that vary with the quantity being produced such as labor and materials.

Termination for Convenience. Procedure which can apply to any Government contract, including multiyear contracts. As contrasted with cancellation, termination can be effected at any time during the life of the contract (cancellation is commonly effected between fiscal years) and can be for the total quantity or a partial quantity (whereas cancellation must be for all subsequent fiscal year's quantities). Also, cancellation costs are currently limited to unrecovered nonrecurring cost whereas termination costs apply to all reasonable and allocable costs incurred by the contractor, recurring or nonrecurring.

Termination Liability. The maximum cost the Government would incur if a contract is terminated. In the case of a multiyear contract terminated before completion of the current fiscal year's deliveries, termination liability would include an amount for both current year termination charges and outyear cancellation charges.

Termination Liability Funding. Obligating sufficient contract funds to cover the contractor's expenditures plus termination liability but not the total cost of the completed end items.

EXHIBIT NO. 1

Summary Budget Plan for Multi-Year Procurement
(\$ in Millions)

	<u>FY 1993</u>	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>TOTAL</u>
	<u>Qty/Amt</u>	<u>Qty/Amt</u>	<u>Qty/Amt</u>	<u>Qty/Amt</u>	<u>Qty/Amt</u>	<u>Qty/Amt</u>	<u>Qty/Amt</u>
End Item	20/700	40/900	40/800	40/750	40/650	40/600	
Less Advance							
Funding	-100	-220	-480	-480	-400	-400	
Net Request	<u>600</u>	<u>580</u>	<u>320</u>	<u>270</u>	<u>250</u>	<u>200</u>	
Advance Funding	510	620	400	350	100	-	
(for 1984)	220	-	-	-	-	-	
(for 1985)	180	300	-	-	-	-	
(for 1986)	70	210	200	-	-	-	
(for 1987)	40	60	150	150	-	-	
(for 1988)	-	50	50	200	100	-	
Total Budget							
Request	<u>1,110</u>	<u>1,300</u>	<u>720</u>	<u>620</u>	<u>350</u>	<u>200</u>	

This exhibit should include the complete funding profile for all years affected by the multiyear technique, even where those years extend beyond the FYDP. For those years coextensive with the FYDP, the data must be identical.

EXHIBIT NO. 2

2

Estimated Savings for Multi-Year Procurement
(\$ in Millions)

	<u>FY 1983</u> <u>Qty/Amt</u>	<u>FY 1984</u> <u>Qty/Amt</u>	<u>FY 1985</u> <u>Qty/Amt</u>	<u>FY 1986</u> <u>Qty/Amt</u>	<u>FY 1987</u> <u>Qty/Amt</u>	<u>FY 1988</u> <u>Qty/Amt</u>	<u>TOTAL</u> <u>Qty/Amt</u>
<u>Annual Proposal</u>							
End Item	-	40/900	40/950	40/950	40/920	40/880	200/4600
Less Advance Funding	-	-220	-300	-280	-260	-250	-1310
Net Request	-	680	650	670	660	630	3290
Advance Funding							220
(for 1984)	220						300
(for 1985)		300					280
(for 1986)			280				260
(for 1987)				260			250
(for 1988)					250		
Total Budget Request	220	980	930	930	910	630	4600
<u>Multi-Year Proposal</u>							
End Item	-	40/900	40/800	40/750	40/650	40/600	200/3700
Less Advance Funding	-	-220	-480	-480	-400	-400	-1980
Net Request	-	680	320	270	250	200	1720
Advance Funding	510	620	400	350	100	-	1980
(for 1984)	220	-	-	-	-	-	-
(for 1985)	180	300	-	-	-	-	-
(for 1986)	70	210	200	-	-	-	-
(for 1987)	40	60	150	150	-	-	-
(for 1988)	-	50	50	200	100	-	-
Total Budget Request	510	1300	720	620	350	200	3700
Proposed Savings	-290	-320	210	310	560	430	900

MULTIYEAR PROCUREMENT
CONTROL/IDENTIFICATION PROCEDURE

3

All procurement programs proposed and approved for the Multiyear Procurement concept will include the designation (MYP) after the nomenclature of the line item, i.e., DIVAD Gun (MYP). This identification will be used on all P-1 shopping lists, Procurement Annex and all other internal DoD documents.

The Reprograming process will be amended to add a special addendum to reflect the multiyear approved program. This addendum will include all years that have been approved for the contract. The basic exhibit (No. 1) will be submitted with all DD 1415 Reprograming Actions, to clearly show the revised program.

The individual advance procurement programs, shown in the exhibit No. 1 parenthetically by year, while not controlling for DD 1415 purposes do represent a base for OSD notification/approval. The same rules and thresholds governing DD 1415 submission at the aggregate level will apply for an exhibit No. 1 submission to OSD for changes in the individual year advance procurement programs. In any event changes which decrease MYP savings will require submission of exhibit No. 1 and OSD prior approval.

Special emphasis will be given the execution status and progress of (MYP) programs during the OSD/OMB Apportionment Review. Periodic reporting of progress may be required to insure expected savings can be realized.

DoD WORKING GROUP FOR MULTIYEAR PROCUREMENT

BACKUP MATERIAL

CRITERIA

The process of deciding to use or not to use a multiyear procurement (MYP) for production programs as well as how best to tailor and structure MYP requires management judgment. The following criteria have been prepared as guidelines for decision makers. The criteria are to be considered in a comparative benefit/risk analysis format where criterion 1 below, represents the benefit factor and criteria 2 through 6 represent risk factors. A format for a hypothetical program is shown at Attachment 1.

1. Benefit to the Government. A multiyear procurement should yield substantial cost avoidance or other benefits when compared to conventional annual contracting methods. MYP structures with greater risk to the Government should demonstrate increased cost avoidance or other benefits over those with lower risk. Savings can be defined as significant either in terms of dollars or percentage of total cost.
2. Stability of Requirement. The minimum need (e.g., inventory or acquisition objective) for the production item or service is expected to remain unchanged or vary only slightly during the contemplated contract period in terms of production rate, fiscal year phasing, and total quantities.
3. Stability of Funding. There should be a reasonable expectation that the program is likely to be funded at the required level throughout the contract period.
4. Stability of Configuration. The item should be technically mature with relatively few changes in item design anticipated and underlying technology should be stable. This does not mean that changes will not occur but that the estimated cost of such changes is not anticipated to drive total costs beyond the proposed funding profile.
5. Degree of Cost Confidence. There should be a reasonable assurance that cost estimates for both contract costs and anticipated cost avoidance are realistic. Estimates should be based on prior cost history for the same or similar items or proven cost estimating techniques.
6. Degree of Confidence in Contractor Capability. There should be confidence that the potential contractor(s) can perform adequately, both in terms of Government furnished items (material, data, etc.) and their firm's capabilities. Potential contractors need not necessarily have previously produced the item.

ACQUISITION STRATEGY COMPARATIVE SUMMARY

ITEM XYZ

	ANNUAL CONTRS	MYP ALTERNATE 1	MYP ALTERNATE 2	MYP ALTERNATE 3
NR UNITS	300	300	300	300
TOTAL CONTRACT PRICE	\$300M	\$285M	\$264M	\$252M
CANCELLATION CEILING	0	\$3.5M	\$3.5M	\$3.5M
\$ COST AVOIDANCE OVER ANNUAL	-	\$ 15M	\$ 36M	\$ 48M
% COST AVOIDANCE OVER ANNUAL	-	5%	12%	16%

RISK RELATED FACTORS

- EQUIPEMENT STABILITY
- FUNDING STABILITY
- CONFIG STABILITY
- COST CONFIDENCE
- ADEQUATE LEAD TIME

RISK

LOW
LOW
MODERATE
LOW
LOW

RISK

LOW
LOW
MODERATE
LOW
MODERATE

RISK

LOW
LOW
MODERATE
LOW
MODERATE

MYP ALT. 1: 3 YR (FY 83-85) STANDARD DAR MULTIYEAR.

MYP ALT. 2: 3 YR (FY 83-85) CONTRACT WITH FULLY FUNDED ADVANCE PROC. OF M/TLS IN FY 83.

MYP ALT. 3: 2 YR (FY 83-84) CONTRACT WITH HIGHER PRODUCTION RATE, AND INCREMENTALLY FUNDED ADVANCE EOQ PROCUREMENT.

Attached funding profile by FY and additional supporting data as necessary.

ATTACHMENT 1

FINANCING ALTERNATIVES
TO
WEAPON SYSTEM ACQUISITION

Spectrum

Advanced Multi-Year Concepts

<u>Full Funding</u>	<u>Classical Multi-Year</u>	<u>Annual Contract with Expanded Advance Buy</u>	<u>Multi-Year with</u>	<u>Incremental Funding</u>
-------------------------	---------------------------------	--	----------------------------	--------------------------------

- I. Full Funding - Congressional obligation authority (OA) for fully financing any quantity of end items in a single fiscal year. Currently two partial exceptions to the full implementation of this policy are authorized and extensively used for weapon system application.

A. Classical multi-year procurement - A contract covering more than one year's requirements but budgeted and financed in annual increments. The contractor is protected against the loss resulting from cancellation to allow reimbursement of unrecovered non-recurring costs.

B. Advanced Buy - Financing of long lead components in a fiscal year in advance of that in which the related end item is to be acquired.

- II. Advanced Multi-Year Concepts - A spectrum of contracting and financing authority which will permit more economic and efficient acquisition of weapon systems which meet established criteria.

A. Full Funding with Expanded Advance Buy - Extension of advanced buy concepts to include economic order quantities for more than one fiscal year contract requirements.

B. Multi-Year with Expanded Advance Buy - Identical to classical multi-year with additional advance procurement of materials, components and their associated labor for end items in the outyear portions of the contracts. Economic lot buys of such materials and components will be permitted based on established guidelines/criteria.

III. Funding to Termination Liability - Funds are appropriated for specific increments of work to be accomplished during the fiscal year for which the funds are approved. Increments of work are based on economic production considerations of the total quantity. This concept has only limited applications to production rate type programs and should be considered as an exception to normal procurement financing.

3/19/81

Enclosure 3

CONTRACTOR CONCERNS ABOUT MULTI-YEAR PROCUREMENT

The concerns listed below apply to varying degrees depending on the method of contracting and funding of multi-year contracts. Each item is addressed more fully in the discussion that follows.

- Cancellation Protection
- Negative Cash Flow
- Excessive Risk
- Reduced Profitability
 - Changed economic conditions
 - Other changes outside contractor's control.

Cancellation Protection:

a. Will the Government allow cancellation ceilings high enough to cover the investment in out year labor and materials that are required to execute a multi-year contract in the most efficient manner?

b. The psychological and human impact of cancellations of large programs like the B-1 cannot be covered by cancellation ceilings.

c. Why can't opportunity costs or lost profit be included in cancellation costs?

Negative Cash Flow:

a. Not allowing some kind of payments for expenditures for out year requirements would create a serious cash flow problem.

b. Not providing accelerated funding to cover cash flow.

Excessive Risk:

a. Contractor's express concern that the Government avoid the mistakes of the Total Package Procurement concept.

1. Commitments to long term contracts with no flexibility for adjustments for factors outside the contractor's control.

2. Assignment of risk to the contractor when uncertainties cannot be resolved.

Reduced Profitability:

a. No coverage for risks of unpredicted inflation with required Economic Price Adjustment provisions for:

Labor Rates

Material

Overhead/G&A

Current EPA clauses are not adequate to cover the effects due to inflation well in excess of predictions.

1. Compensation is not provided for the erosion of profits.

2. The impact of fringe benefit costs are not adequately covered.

b. No adjustment provisions for unforeseeable risks and uncertainties beyond the contractor's control.

1. Work around costs for deficient or late GPR.

2. Cost or availability of energy.

3. Impact of foreign or domestically-initiated embargoes.

4. Changes in legislation or tax structure.

5. Impact of environmental rulings or imperatives.

6. Exceptional cost increases due to: higher costs of energy, foreign or domestic embargoes, changes in tax structures.

7. Readjustment of prices due to exceptional changes to the contractor's business base.

c. Much of the DOD contracting system is geared to recovering or preventing "high" contractor profits. Will contractors be able to retain profits made by good management of long term contracts?

d. Imputed interest on working capital should be allowed.

AN EXPLORATION OF PUBLIC POLICY ISSUES REVOLVING AROUND
THE EXPANSION OF MULTI-YEAR PROCUREMENT

There are basically three general areas for which there are implications if multi-year procurement is expanded beyond the current concept provided for in the DAR.

- o Fiscal policy
- o High level decision-making process
- o Industrial base considerations

In each of these areas, the implications are derived from the ultimate nature of the concept of full funding annual activity which is treated as the outer limit of the contractual flexibility envisioned.

There are several issues involved in the fiscal policy arena.

- o Potential loss of full visibility of costs.
- o Potential creation of unfunded liabilities in order to produce end product.
- o Requirement for appropriations by succeeding Administrations and/or Congresses to complete programs approved by previous Administrations/Congresses.

These considerations have in the past precluded an expansion of multi-year concepts. To the extent we are to overcome them, the Department must be able to make a persuasive case that the benefits to be derived are substantial enough to overcome the natural reticence that will exist particularly in the Congress.

Currently existing policies provided for discreet acquisition packages with concomitant decision-maker control of each annual increment. The extension of a broader concept of multi-year procurement to a significant number of programs would create a situation where any decision-maker would be faced with

potentially significant penalties in attempting to arrive at a decision to cancel a program. These penalties could be of two sorts.

- o Potential non-delivery of any usable military hardware.
- o Potential requirement for sizable amounts in order to complete any quantity of usable military hardware.

However, the decision-maker is also faced with the dilemma that, given that procurement is the greatest area of discretionary spending short of significant adjustments in force levels, the locking in to multi-year procurements sharply reduces a decision-maker's flexibility several years hence. This situation acts as an inhibitor in different ways at different levels.

- o Service Chiefs or Military Department Secretaries proposing a cancellation would have to defend/identify the resources required to execute the decision or the reasons the military deficiency is now acceptable.
- o The approver of such a proposal, be it the President or the Congress, would have to face the political consequences of allegations of waste and mismanagement which would arise even though the decision was in the best national interest. While an isolated case of program cancellation would be manageable, any significant number would pose distasteful political consequences.
- o A new Administration or Congress that desired to discontinue programs upon coming to power, would be faced with a possible inability to act either because the financial penalties would be too large or because the political consequence of program cancellation would be too severe or because the resulting potential lack of weapons would aggravate a tenuous military balance.

Again, if the benefits to be gained can be described and are significant enough, decision-makers should be amenable to accepting the risk of loss of certain elements of control and a certain loss in their discretionary spending authority.

Finally, there are some interesting potentials with regard to industrial base considerations. We have for a number of years described enhanced competition as a basic tenant of procurement policy and our industrial strength. Increasing the use of multi-year contracting in whatever mode, but particularly the broader concepts of multi-year contracting, may tend to act as an inhibitor to that competition.

- o At the system prime level, we the Government would be locking a program into one producer for a number of years. There is some question if after that period of time other producers could be found who would be either willing or able to successfully compete against the initial producer in any follow-on multi-year procurement.
- o At the vendor levels below the system prime, much the same could be observed as, prime contractors, in order to maximize the efficiencies and economies to be derived, would tend to lock in second and third tier producers for the duration of the contract thereby further consolidating the position of certain producers in specific weapon system areas.

Some examination would have to be made into the effects of denying opportunities for competition and we would have to ensure that the lack of competition would not in turn negate many of the benefits expected to be derived as a result of going to multi-year procurement in the first place. Further, national commitments to small businesses and to minority firms and to disadvantaged areas would have to be rationalized in the face of the potential use of multi-year system contracts involving any significant quantities of production.

**CONTRACTUAL ISSUES IN MAKING LONG TERM AGREEMENTS
FOR DOD SUPPLIES, SERVICES AND SYSTEMS**

I. Contract Cost Visibility

- Changes to cost monitoring systems should continue to improve the visibility of equipment costs. The Services have better visibility into the contractor's progress and costs than they did over ten years ago when full funding was established.
- Special identification and reporting of long term contracts could provide the Services, DOD and Congress the visibility they require.

II. Budget Estimates:

- Because fixed-price type contracts would be used for these longer term contracts, better visibility would be provided for cost of the items. The costs would be based on negotiated agreements rather than Government estimates which often use unrealistic assumptions and inflation rates.

III. Commitment to Longer Term Contracts:

- Longer term commitments inherently reduce flexibility. A balance must be struck between the demands for flexibility and its attendant costs.
- An annual decision process offers more flexibility for changes to requirements than would a two-year or five-year process.
- Much has been written about the inefficiencies of such short term commitments.
- The United States is the only major western country that limits its commitments to one year.
- The concentration on wholesale review of requirements each year precludes serious commitment to longer range plans.
- There is and will always be a higher demand for equipment than funds available to buy them. Cutting out lower priority programs must be done; and that might be more likely if there were a commitment to a few high priority programs.
- The costs of flexibility are being better identified today than in the past. The urgent needs of the country and the plight of the taxpayers demand more efficient use of limited funding. Decision makers should be willing to explain higher costs because of changed requirements. Congress keeps demanding it.

- More flexibility in the Federal budget is now coming from other agencies.
- There would be no dramatic change in the ability of Administrations to make changes to programs. Programs being considered for longer term contracts would have to pass the test of stable requirements in face of possible Administration changes. There would only be a few programs in this category. The ability to change still exists. It is only the cost of making the change that has become more visible.

IV. Industrial Base Considerations:

- Greater competition will result from longer term contracts. Industry has clearly stated that they will be more interested in larger buys than uncertain year-to-year procurements.
 - Increased subcontractor competition will also result.
- Contractor investment in capital improvements will increase under long term commitments.
- More stable production would probably also improve:
 - Workforce management
 - Product quality
 - Attractiveness of DOD business.

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